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DISTRICT No. 1, NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

The weather for the month of January, 1910, for the district as a whole, may be characterized as stormy, even for the winter season, when storm frequency is at its maximum in this latitude.

Five well-marked disturbances passed over the North Atlantic States during the month, while several others passed so near that a part of the district was well within the zone of their influence. Some of these storms were general and severe, being accompanied with high winds and heavy precipitation, and traversing practically the entire district from Virginia to Maine.

The month was warmer than usual in practically all portions of the district and the precipitation was generally quite largely in excess of the normal January amount.

The most notable event was the rapid rise in most rivers and streams at the beginning of the third decade, which threatened to become serious in many localities. This was the first general rise of importance in the rivers for several months, and in some instances it came with startling suddenness, the more alarming because preceded by so long a period of low water. The rise was occasioned by general and heavy warm rains, which melted much of the large accumulation of snow on the ground and the run-off quickly brought the rivers and streams nearly to the flood stage.

Although in many instances the situation was threatening, the water generally passed away without causing much damage, except where the floating ice met with obstructions, thus forming a temporary dam. A notable case of this kind occurred at Port Deposit, Md., where great loss of property resulted from an ice gorge that formed in the Susquehanna River, near that city.

TEMPERATURE.

The average temperature for the district, as a whole, was 29.2°, about 0.6° above the normal, and ranged from 25.6° in New England to 33.7° for that part of Virginia included in the district. The average temperature for the month was considerably above the normal in New England and northern New York, and normal, or slightly above, in the remaining portions.

The greatest departures occurred in Maine and northern New York, where the daily excess of temperature at some individual stations averaged more than 8°. Several sudden and extreme changes occurred, but the temperature conditions for the month, as a whole, were not more variable than for the average January in this latitude.

The month opened with moderate temperatures, except in parts of New England, where temperatures from 10° to −8° were recorded on the 1st. The 2d and 3d were mild and pleasant over the district and decidedly warm, especially over the southern sections on the 3d, when the maximum temperature of the month was recorded at many stations. A cold wave of considerable severity overspread the district during the night of the 3d, causing a sudden fall of temperature amounting to from 20° to 40°. This was the most pronounced cold period of the month in many localities, particularly in New England and northern New York, where minimum temperatures of from −20 to −30° were recorded at many stations. The cold weather continued throughout the 5th, Indian Lake, N. Y., a station in the Adirondack Mountains, recording a temperature on that day of −33°, and Woodstock, Vt., −28°. Zero temperatures were general at this time as far south as Pennsylvania and New Jersey.

The temperature rose rapidly on the 6th and 7th, but on the 8th a sharp fall occurred, especially over the northern part of the district, that resulted in temperatures from zero to −20° over the interior of New England and New York. The 9th and 10th were comparatively mild days, although zero temperatures were reported from a few localities in southern New York and northern Pennsylvania on the latter date. From the 11th to the 16th moderate weather prevailed, except in the mountain districts of New England and New York, where the cold continued, but on the 16th the most general and widespread cold period of the month developed. While the temperatures over the northern part of the district were not so low during this period as those that occurred with the cold wave of the 3d, the cold, in this instance, was not confined to New England and New York but extended to the southern limits of the district. The following temperatures indicate the severity and extent of the cold: Lawrenceville, Pa., −22° on the 16th; Layton, N. J., −15° on the 17th; Taneytown, Md., −12°, and Stephens, Va., zero on the 16th. The weather continued cold throughout the 17th but moderated on the 18th. During the following two days there was a gradual rise in temperature, culminating on the 21st in the most pronounced warm period of the month. During the remainder of the third decade the temperature was variable but no very pronounced departures from the normal occurred.

PRECIPITATION.

The average precipitation for the district was 4.52 inches, which is about 1.47 inch more than usually occurs during the month of January. The distribution was quite uniform, except in Maine and Vermont, where there was a slight deficiency as compared with the normal. For the remainder of the district the monthly amounts, except for 2 stations in New York, were everywhere considerably in excess of the normal. The heaviest precipitation occurred over Long Island and vicinity and about the mouth of the Hudson, where the totals for the month ranged from about 5 to somewhat more than 7 inches. Over the upper Susquehanna Basin the precipitation was generally from 3 to 5 inches, and over the upper Delaware somewhat more than 5 inches. Over the central part of the Susquehanna watershed, particularly in the mountain districts of Pennsylvania, the monthly amounts ranged generally from 5 to nearly 7 inches, a large part of which was in the form of snow. The greatest amount for the month at any individual station, 8.09 inches, occurred at Southeast Reservoir, N. Y., which is, however, closely followed by 8.05 inches at Waterbury, Conn. While heavy rains and snows occurred at many stations, only 3 reported excessive precipitation. At Canton, Conn., 3.53 inches occurred in less than 17 hours on the 21st and 22d. Waterbury, Conn., reported 2.79 inches, and Carmel, N. Y., 2.63 inches within 24 hours on the same dates.

Fair weather prevailed generally during the opening days of the month, but the passage of a storm of moderate intensity down the St. Lawrence Valley resulted in light and scattered snows over the northern part of the district on the 3d and 4th. Rain began over the southern part of the district on the 5th, under the influence of a storm of considerable energy that moved northeastward from the Gulf to New England and, spreading rapidly, became general on the 6th and 7th. Much of the precipitation from this storm in the interior of New York and New England was in the form of snow, and in some localities the fall was sufficiently heavy to interfere to some extent with transportation traffic.

From the 8th to the 12th generally fair weather prevailed, but on the morning of the 13th rain set in over West Virginia and by the morning of the 14th rain or snow was falling through-

out the district, except in New England and northern New York. General rains and snows occurred again on the 18th, but the severest and most widespread storm of the month occurred during the 21st and 22d. The precipitation that accompanied this storm was mostly in the form of rain and sleet. The precipitation from the 23d to 28th was generally light and scattered, but on the 29th a storm of great intensity passed up the Atlantic coast, causing general and heavy rain over the southern part of the district, with snow in the interior of New York and New England.

RIVER CONDITIONS.

The sudden and, in some instances, dangerous rise that occurred in most of the rivers and streams at the beginning of the third decade was the principal event connected with the river situation for the month. The stages at practically all points on the principal rivers and streams were unusually low at the beginning of the month and no change of importance occurred until the 21st and 22d, when the heavy warm rains melted most of the large accumulation of snow on the ground at that time and caused the first considerable rise in the rivers for more than 6 months.

The rise in the Mohawk River occurred on the 22d and 23d, but at no point did the river attain the flood stage, the nearest approach being a stage of 10 feet at Utica, which is 1 foot below the flood line.

The following reports of officials in charge of the Weather Bureau offices at Albany, Binghamton, and Harrisburg indicate the nature and extent of this rise in their respective localities:

Albany, N. Y.—The Hudson River on the morning of the 22d was 7.8 feet above the zero of the gage, but with the general rains of the previous night, it was considered advisable to call for special reports from the substations in the upper watershed. When these reports were received it was found that the height of the water at the upper stations was not sufficient to justify flood warnings unless the ice should move and form gorges below Albany. With freshet conditions and high temperatures this seemed very probable and the warnings were, therefore, issued.

The warnings were amply justified, as the river rose steadily for 21 hours, and ice gorges formed below this city that caused the water to back up to 14.6 feet at 7 a. m. at Albany, and to 15.5 feet at 6 p. m. at Troy, this being 2.6 feet above the flood stage at Albany, and 1.5 feet above at Troy, and the river continued above the flood stage till the morning of the 24th.

The warnings were so generally heeded that there was little loss that could have been avoided, either in Troy or Albany.

The money value of the property destroyed and damaged by the flood was about $10,000.

There was no damage to crops, and there was little loss from erosion, due to the frozen condition of the ground.

The money value of the property saved by the flood warning from this office was probably about $35,000.

The losses occasioned by enforced suspension of business through the flood was small, owing to the fact that the high water occurred during Saturday night, Sunday, and Sunday night, when places of business were closed.

Binghamton, N. Y.—The rain and warmth of January 21 caused the rivers to begin to rise the afternoon of that day and a small amount of ice (weakened by ice cutting) in the neighborhood of Binghamton broke up and passed out that night. On the morning of the 22d the rivers were rising generally throughout the district and notices were issued that they would continue to rise that afternoon and night with some ice starting. Dangerous conditions or serious ice gorges were not anticipated, except that a stage of 16 feet was forecast for Bainbridge, N. Y., the bank-full stage at that place being 11 feet.

The rivers continued to rise, as anticipated, and a stage of about 16 feet was reached at Bainbridge, N. Y., early on the morning of the 23d. Moderate gorges formed 3 miles below Bainbridge and at Riverside, N. Y. Elsewhere bank-full stages were not quite reached. The damage in the district was slight, probably not exceeding $1,000.

Harrisburg, Pa.—The streams of the Susquehanna River system became generally ice-bound during the first decade of December, 1909, while the stages of water were very low, and there was considerable apprehension felt as to the possible effect of continued cold weather on the water supply, which had been very low since midsummer, throughout the entire valley. A general storm, however, that began during the night of December 12, the precipitation beginning as snow and changing to rain early on the morning of the 13th, together with temperatures sufficiently high to cause the melting of considerable snow, resulted in a general rise of 1 to 2.5 feet in the river and its principal branches, and broke up and carried off the ice from the main river. The ice remained in place generally in the tributaries but the higher stages of water dissipated the fear of solidly frozen streams. Colder weather followed the rain storm of December 13 and by the night of December 20 the streams, including the main river, were generally icebound and continued so without material change until the night of January 19, with ice ranging from 6 inches to over 2 feet in thickness. At about 2 a. m., January 19, the ice broke at Clearfield and moved out on a stage of water estimated at between 8 and 9 feet. This break was caused by high temperature, melting snow, and moderately heavy rains over the headwaters of the West Branch on January 18. The ice flood reached Renovo about 1:30 p. m. of the 19th and by 3 p. m. the river there had risen to 7.6 feet. The ice gorged near Jersey Shore on the night of the 19th, the water flooding the lowlands above the gorge. On January 20 a stage of 15 feet was reported at Pine Station, about half way between Jersey Shore and Lock Haven, but no material damage was done. No further movement of ice occurred until the 21st when a general rain set in over the Susquehanna Basin attended by temperatures sufficiently high to melt considerable snow. The rainfall was exceptionally heavy over the lower portion of the West Branch on the 21st, and during the afternoon the ice below the dam at Williamsport moved out and during the night of the 21st a general movement of ice began at all points above Harrisburg and for some distance below, the break at Harrisburg occurring about 3:30 a. m. The gorges in the West Branch, near Jersey Shore, were carried out without doing any damage of consequence and the damage in the principal tributaries and, in fact, at all points above Harrisburg was slight, being confined mainly to the destruction of a few boathouses and the carrying off of a number of small boats and barges. Below Harrisburg, however, the damage was great, particularly at Port Deposit, Md., where, due to gorging, the flood was the worst in the history of the town, the water reaching, according to a reliable report, a stage about 3 feet higher than that experienced in the great ice flood of March 4, 1904. Other towns on the lower river, notably Havre de Grace and Perryville, Md., were considerably damaged. The most serious loss reported in Pennsylvania was that of the iron bridge across Swatara creek, at Hummelstown, which was swept away by ice between 9 and 10 a. m., January 22. The only other damage in the vicinity of Hummelstown reported was the destruction of a few boathouses. Considerable damage was done to the dam of the York Haven Water and Power Company at York Haven, Pa., some of the cribbing, logs, and planks being swept away by the ice. No flood stages occurred at any of the regular reporting stations.

No general warnings were issued as they were not considered necessary. Such advisory messages and special warnings as the situation seemed to require were sent and the conditions, as they developed, were given in the river bulletins and forecasts on the weather map from day to day.

MISCELLANEOUS.

The average number of days for the district on which .01 inch or more precipitation occurred was 12, and ranged from 10 days in West Virginia to 15 days in New Jersey. The average number of clear days was 9; partly cloudy, 8; and cloudy, 14. The cloudiness was greatest over Pennsylvania, with an average of 17 cloudy days for the month, and least in New England, with an average of 13 days.

The average number of hours of sunshine, as recorded at 13 stations, was 115, which is about 36 hours less than the average for the month of December, 1909. The greatest percentage of possible sunshine, 53 per cent, occurred at Eastport, Me., and the least, 19 per cent, at Binghamton, N. Y. There were 15 days during the month when the sunshine for the district averaged 80 per cent or more of the possible; 8 days with an average between 20 and 80 per cent, and 7 days with an average of 20 per cent or less.

ICE STORM OF JANUARY 5–6, 1910.

The greater portion of New Jersey was visited on January 5–6, 1910, by an ice storm of exceptional severity, the conditions being especially severe in the northern and some of the western counties. A remarkable feature of the storm was the occurrence of rain with temperatures as low as 16° and 17° and ranging upward to about 25°. In the western counties the storm began early in the afternoon of the 5th, and by late afternoon it had extended eastward to Jersey City and vicinity. Rain continued through the night of the 5–6th, freezing as it reached the ground and covering objects with an ice deposit, which at Moorestown, Burlington County, was reported as one-fourth of an inch thick, and at Jersey City, Hudson County, was estimated to measure from one-half to three-fourths of an inch in thickness. The rain increased in volume about daylight on

the 6th, and falling heavily during the day, with temperature above 32°, formed puddles over the ice, resulting in a condition dangerous to pedestrians and interruption of traffic service in the large cities. Many persons received injuries from falls. Except in places where it was removed, the ice covering remained for several days.—*L. A. Judkins, Section Director.*

THE HIGH TIDE OF DECEMBER 26, 1909.

The morning tide of December 26, 1909, attending the severe storm of this date on the New England coast, was one of the highest ever recorded in Boston Harbor. At Boston Light the predicted time of high tide was 10:20 a. m. The wind from the late afternoon of the 25th until nearly noon of the 26th, was from the east and northeast over Boston Harbor and Massachusetts Bay, rapidly increasing in force during the evening of the 25th to very high velocities soon after midnight, which continued undiminished through the morning and day of the 26th. At Cape Cod, Highland Light, the velocity at 8 a. m. of the 26th was 48 miles northeast; noon, 72 miles; 2:15 p. m., 84 miles; at 5 p. m., 66 miles, all from the east-northeast, and at midnight it was 60 miles north. At Hull, Mass., the hourly movements on the 26th were as follows: Midnight to 1 a. m., 37 miles; 1 to 2 a. m., 43; 2 to 3 a. m., 46; 3 to 4 a. m., 63; 4 to 5 a. m., 58; 5 to 6 a. m., 60; 6 to 7 a. m., 56; 7 to 8 a. m., 60; 8 to 9 a. m., 54; 9 to 10 a. m., 65; 10 to 11 a. m., 55; 11 a. m. to noon, 48. During the afternoon the velocity ranged between 40 and 50 miles per hour. The maximum velocity at Hull was about 72 miles per hour at 9:35 a. m. At Boston the hourly movements from midnight to noon of the 26th ranged between 25 and 39 miles, the hourly maximum rates between 32 and 45 miles per hour, the latter occurring at 5:10 a. m., from the northeast. The increasing and high wind occurring with the rising tide, together with a high run of tide, caused the water in Boston Harbor to reach approximately the record height of the tide of April 16, 1851, which at the United States Navy Yard was 15.0 to 15.1 feet, the height of the tide of December 26, 1909, being, at the same station, 14.98 feet. In general, the tide in Boston Harbor and Massachusetts Bay was approximately 3.5 feet above the predicted height. The actual height, as given by the United States Engineers and other reliable authorities at the following places, was as follows: Newburyport, Mass., Harbor, Black Rock Wharf, 12.68 feet; Sandy Bay, Rockport Harbor, 13.64; Boston Harbor, Deer Island, 14.56; Plymouth Harbor, 14.8; Barnstable Bay, 13.25; Provincetown Harbor, 14.35. The tide at all of these stations, with the exception of Plymouth and Barnstable, was approximately 5 feet above mean high water.

The high water caused great damage to water-front and shore property in many places, by the flooding of cellars, and by washouts. The greatest damage occurred in portions of Chelsea and Everett, Mass., where the breaking of a dike permitted the tide to cover a large residential section to a depth of several feet, causing the death of two persons and temporarily driving several thousand persons from their homes.—*J. W. Smith, District Forecaster.*

THE WEATHER AND THE PLANT PATHOLOGIST.

By DONALD REDDICK, Assistant Professor of Plant Pathology, New York State College of Agriculture.

Since the more or less accidental discovery of Bordeaux mixture in 1882 in France, the science of preventive medicine as applied to plants has made rapid strides. Plant pathologists have found in looking into the life histories of many fungous parasites affecting our cultivated plants and producing rusts, blights, rots, or mildews, that the spores of the fungus which produce new infections most often get their start in the moisture and favorable conditions which are furnished by a rain. This is the reason that many of these diseases are incorrectly attributed to the weather. The fungus is directly dependent upon weather conditions. There must not only be rain, but foggy or cloudy weather also, so that the drops will not dry up before the fungous spore sprouts, grows, and becomes established. At the present time it has come that a plant pathologist who goes to the field, vineyard, or orchard to investigate a disease is as sure to take with him meteorological instruments as he is the microscope, and the daily weather maps are indispensible. If he is spraying to prevent one of these diseases he uses a spray which will not wash off in rain water and applies it a day or so before the rain, which, from his study of the weather maps, he suspects will come. The progressive grower, too, is coming to appreciate these facts and as a result is having better success in controlling these diseases.

The cause of some plant diseases remains in doubt for a long time though they are often of great importance and are much discussed in agricultural meetings. In such meetings a common name is used in referring to the disease, but unfortunately a single common name, e. g., blight, often covers more than one disease. Here the plant pathologist, in working up the history of the distribution and spread of a disease, often finds the old weather records of the greatest value. If one were to find in the transactions of a horticultural society a discussion about and a general discription of a blight of pears which did not seem to quite conform to the generally accepted appearance of fire blight, he might be able to show by consulting meteorological data that this was the fungous leaf blight which is prevalent only in years following a wet spring. Professor Selby, of Ohio, has shown from observations over a period of 7 years that the amount of peach leaf curl, a fungous disease, is directly dependent upon the occurrence of cold, drizzling weather in April, May, or June.

Lately that most elusive of all plant diseases, peach yellows, has been attributed to adverse weather conditions, namely, winter kill and summer drought. This disease is of considerable importance in the State of New York. Thanks to available weather records we need not wait a long period of years to test out this theory. A student should be able to get all the data together in a week and show certainly whether there is really a correlation between weather conditions and epidemics of this dread disease.

The three phases of the weather service herein mentioned are the ones that at the present time seem of greatest importance. As we learn more about our science we shall no doubt be able to make even greater use of the records and forecasts of the weather service.

TABLE 1.—*Climatological data for January, 1910. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Maine.																			
Bar Harbor	Hancock	20	24	28.4	+ 6.8	48	29	− 9	5	39	3.30	− 1.73	0.90	17.0	10	12	4	15	se.	Wm. Miller.
Cornish	York	778	55	25.4	+ 5.4	55	2	−14	5	46	4.25	+ 0.67	1.04	9.0	12	16	4	11	ne.	T. H. West.
Eastport	Washington	53	38	27.3	+ 7.2	53	22	−10	4	41	3.80	− 0.04	0.95	7.2	14	7	5	19	sw.	U. S. Weather Bureau.
Fairfield	Somerset	90	25	23.6	+ 7.8	53	22	−14	8	41	2.19	− 0.83	0.82	.....	6	11	16	4	.....	Edward F. Parker.
Farmington	Franklin	450	13	21.6	+ 6.5	48	22	−17	5	48	3.48	− 0.45	1.58	12.5	8	14	8	9	nw.	State Normal School.
Gardiner	Kennebec	163	18	26.0	+ 8.4	56	22	−13	5	51	3.22	− 0.53	0.65	4.0	12	14	2	15	sw.	Samuel D. Soule.
Greenville	Piscataquis	1,000	6	18.5	.....	47	22	−18	4†	35	3.43	.....	1.38	15.0	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	8	16.1	.....	49	24	−25	15	43	0.95	.....	0.45	8.0	5	20	1	10	ne.	Bangor & Aroostook R. R.
Lewiston	Androscoggin	185	36	25.1	+ 6.9	52	22	− 8	4†	40	3.44	− 0.76	1.03	6.3	11	13	6	12	nw.	Union Water Power Co.
Madison	Somerset	257	7	17.4	.....	52	23	−16	5	39	4.13	.....	1.44	12.0	10	14	4	13	nw.	Wm. Jardine.
Millinocket	Penobscot	386	7	20.2	.....	52	22	−23	14	44	4.05	.....	1.10	9.8	12	11	4	16	nw.	H. S. Ferguson.
North Bridgton	Cumberland	450	17	25.0	+ 6.6	50	16	−12	5	37	3.77	+ 0.24	1.04	16.5	8	10	7	14	nw.	G. E. Chadbourne.
Orono	Penobscot	129	41	22.4	+ 6.2	53	22	−17	5	50	3.57	− 0.58	1.23	11.0	8	11	5	15	sw.	Agricultural Exp. Station.
Patten	do	550	8	19.0°	.....	49°	22	−20°	15	43°	3.10°	.....	1.17°	14.0°	7°	13°	1°	12°	nw.	Bangor & Aroostook R. R.
Portland	Cumberland	99	39	27.9	+ 5.9	49	2	− 4	5	29	2.90	− 0.91	0.82	5.0	11	10	8	13	n.	U. S. Weather Bureau.
Presque Isle	Aroostook	.....	.....	16.6	.....	47	23	−28	15	49	1.89	.....	0.54	6.3	7	16	5	10	w.	San Lorenzo Merriman.
Rumford Falls	Oxford	505	17	22.3	+ 5.8	51	22	−11	5	34	3.88	+ 0.36	1.87	14.2	10	19	5	7	nw.	Chas. A. Mixer.
Winslow	Kennebec	90	15	20.4	+ 2.6	53	22	−16	5	42	3.12	.....	0.87	11.0	8	15	8	8	w.	Hollingsw'th & Whitney Co.
New Hampshire.																			
Alstead Center	Cheshire	1,120	6	22.1	.....	49	22	−16	5	32	3.59	.....	0.74	25.5	14	14	2	15	nw.	Frank Dewing.
Benton	Grafton	.....	.....	23.8	.....	62	18	− 2	10	42	2.40	.....	1.10	.....	6	17	7	7	nw.	P. C. Bartlett.
Bethlehem	do	1,470	18	20.3	+ 4.9	54	22	−22	5	44	3.17	+ 0.84	0.81	16.5	12	11	5	15	w.	Benjamin Tucker.
Concord	Merrimack	350	50	25.7	+ 4.5	50	22	−10	5	44	4.10	+ 0.76	1.06	9.1	13	7	10	14	nw.	U. S. Weather Bureau.
Durham	Stafford	88	15	25.6	+ 2.9	48	21†	−17	5	47	2.90	− 0.98	1.35	8.5	9	15	2	14	nw.	Agricultural Exp. Station.
Franklin	Merrimack	440	11	24.8	.....	50	22	−14	5	33	3.48	.....	0.90	12.5	13	13	7	11	nw.	Dr. C. P. Webster.
Grafton	Grafton	863	24	21.0	+ 4.2	48	22	−18	1†	39	3.80	+ 1.19	1.25	16.0	14	16	2	13	nw.	Perley R. Kimball.
Hanover	do	603	76	20.6	+ 3.7	49	22	−23	5	39	2.50	− 0.15	0.70	12.3	10	7	12	12	nw.	Dartmouth College.
Keene	Cheshire	506	25	22.7	+ 1.8	53	22	−18	5	52	4.01	+ 1.30	1.05	16.5	14	12	7	12	nw.	Samuel Wadsworth.
Nashua	Hillsboro	125	25	24.7	+ 2.2	53	22	−14	5	46	4.49	+ 0.44	0.99	22.5	15	11	9	11	n.	Jackson Company.
Newton	Rockingham	.....	22	25.8	+ 2.8	49	22	−16	5	35	4.20	+ 0.50	0.78	10.0	11	9	13	9	sw.	W. C. Gale.
Plymouth	Grafton	500	22	22.4	+ 6.0	46	22	−14	5	33	4.05	+ 0.43	1.66	19.3	10	17	3	11	w.	Hattie G. Trow.
Vermont.																			
Bloomfield	Essex	.....	3	18.0	.....	52	22	−27	5	43	3.14	.....	0.83	18.0	10	18	8	5	s.	P. S. Tirrill.
Cavendish	Windsor	910	7	21.6	.....	50	22	−22	5	35	4.19	.....	1.59	10.5	10	12[b]	4[b]	13[b]	.....	Miss M. A. Kingsbury.
Chelsea	Orange	830	15	18.4	+ 3.4	49	22	−23	5	40	2.96	− 0.15	0.60	17.0	11	13	5	13	n.	W. F. Dewey.
Jacksonville	Windham	1,000	25	17.3	− 1.2	42	21†	−30	5	44	3.07	− 1.82	1.16	47.0	10	16	8	7	nw.	Miss Martha French.
Manchester	Bennington	980	11	22.0	.....	51	22	−15	5	45	1.72	− 0.26	0.65	10.5	7	9	10	12	sw.	N. M. Canfield.
St. Johnsbury	Caledonia	711	17	20.2	+ 5.3	53	22	−22	5	42	2.12	− 0.33	0.73	14.3	9	9	7	15	n.	Fairbanks Museum.
Woodstock	Windsor	700	18	19.2	+ 3.8	50	21	−28	5	46	3.99	+ 1.02	1.52	22.0	10	11	2	18	.....	John S. Eaton.
Massachusetts.																			
Amherst	Hampshire	222	21	26.2	+ 2.6	56	22	− 9	5	41	6.14	+ 2.68	1.20	19.5	13	9	9	13	ne.	Agricultural Exp. Station.
Blue Hill	Norfolk	640	26	28.6	+ 3.6	54	22	− 8	5	34	4.89	+ 0.61	0.89	18.2	17	9	7	15	w.	Blue Hill Observatory.
Boston	Suffolk	124	40	32.0	+ 5.0	57	22	− 3	4†	30	4.25	+ 0.43	1.29	11.9	15	6	9	16	w.	U. S. Weather Bureau.
Chestnut Hill	do	124	30	29.3	+ 2.9	56	22	− 6	5	34	6.11	+ 1.78	1.52	15.0	16	.....	.....	.....	.....	Metropolitan Water Board.
Clinton	Worcester	370	14	26.5	.....	51	21	−12	4	50	6.49	.....	1.32	13.0	14	14	1	16	.....	Do.
Concord	Middlesex	139	20	25.9	+ 2.6	54	22	−17	5	46	4.30	+ 0.75	1.29	12.9	15	8	8	15	nw.	Fred. A. Tower.
Fall River	Bristol	200	44	32.2	+ 3.5	54	22	− 3	5	41	5.72	+ 1.15	1.23	16.0	14	12	6	13	sw.	C. V. S. Remington.
Fitchburg	Worcester	550	27	27.4	+ 3.8	54	22	−10	5	33	5.07	+ 0.95	0.80	17.5	13	15	3	13	w.	Dr. A. P. Mason.
Framingham	Middlesex	160	30	27.8	+ 2.1	55	22	−12	5	39	4.98	+ 0.58	0.93	14.8	13	.....	.....	.....	.....	Metropolitan Water Board.
Hyannis	Barnstable	31	19	32.1	+ 1.4	48	29	7	4†	28	6.78	+ 2.91	1.38	19.5	14	9	11	11	nw.	C. F. Sleeper.
Lawrence	Essex	51	26	26.6	+ 2.8	50	22	−10	1	44	4.00	− 0.11	1.46	13.5	13	10	12	9	w.	Essex Company.
Lowell	Middlesex	100	25	28.6	+ 4.2	54	22	−10	5	47	4.41	+ 0.28	0.89	.....	10	.....	.....	.....	.....	Prop'rs Locks and Canals.
Middleboro	Plymouth	53	24	29.0	+ 2.2	55	22	− 7	16	51	4.88	+ 0.48	0.91	11.3	14	9	6	16	nw.	A. R. Gurney.
Monson	Hampden	420	26	27.0	+ 2.9	48	21†	−10	5	42	5.62	+ 1.51	1.15	18.0	14	14	6	11	sw.	Dr G. E. Fuller.
Nantucket	Nantucket	15	24	34.5	+ 2.4	50	7†	10	4	25	6.90	+ 3.48	1.40	21.5	17	10	4	17	w.	U. S. Weather Bureau.
New Bedford	Bristol	88	98	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City Engineer.
Norfolk	Norfolk	244	7	29.0	.....	50	21	−17	5	48	4.30	.....	1.02	15.4	12	14	3	14	w.	Miss Ruby H. Martyn.
Northampton	Hampshire	205	2	23.4	.....	46	22	− 9	17	40	6.15	.....	2.09	15.0	12	12	2	17	nw.	D. E. Hoxie.
Plymouth	Plymouth	.....	25	29.4	.....	52	22	0	5	36	4.42	.....	0.87	11.0	12	14	1	16	.....	Laura B. Knapp.
Provincetown	Barnstable	40	23	33.0	+ 3.2	48	22	7	5	22	6.33	+ 2.68	1.90	21.5	12	16	0	15	sw.	Gideon Bowley.
Rockport	Essex	25	8	31.6	.....	64	28	0	5	31	6.20	.....	1.20	4.0	7	12	8	11	nw.	C. F. B. Bca-se.
Rutland	Worcester	1,160	8	25.4	.....	51	21	−12	4	36	5.53	.....	1.16	17.9	15	14	5	12	sw.	State Sanatorium.
South Egremont	Berkshire	764	8	22.5	.....	44	18†	−12	1†	44	6.04	.....	2.05	19.8	12	.....	.....	.....	nw.	Roscoe C. Taft.
Turners Falls	Franklin	200	19	25.0	+ 3.4	55	22	− 9	5	40	5.94	+ 3.12	2.02	19.9	9	.....	.....	.....	.....	Turners Falls Co.
Westboro	Worcester	298	36	28.5	+ 3.0	55	22	− 9	5	42	5.22	+ 1.25	1.25	14.0	11	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	29	25.0	+ 3.2	47	21	− 9	5	38	3.90	+ 0.55	0.98	10.5	13	7	9	15	w.	Williams College.
Worcester	Worcester	518	18	28.8	+ 4.0	52	22	− 5	5	29	5.10	+ 2.07	0.88	16.1	12	12	6	13	sw.	G. W. Swan.
Rhode Island.																			
Block Island	Newport	26	30	33.8	+ 2.4	48	22	4	5	40	4.86	+ 1.00	1.61	8.8	18	11	3	17	nw.	U. S. Weather Bureau.
Bristol	Bristol	53	24	31.8	+ 2.8	50	22	− 1	5	38	5.18	+ 0.77	1.07	14.0	15	14	6	11	sw.	N. G. Herreshoff.
Kingston	Washington	250	21	30.3	+ 2.6	49	22	− 7	5	44	7.03	+ 1.93	1.80	17.0	13	9	12	10	w.	Nathaniel Helme.
Narragansett Pier	Newport	22	28	31.7	+ 2.8	48	19	− 1	5	39	5.57	+ 0.56	1.84	11.0	15	12	5	14	sw.	U. S. Weather Bureau.
Providence	Providence	182	6	31.4	+ 4.2	56	22	− 5	5	45	4.85	+ 1.03	1.16	15.7	17	9	6	16	nw.	Do.
Connecticut.																			
Bridgeport	Fairfield	20	17	30.4	.....	50	22	− 1	5	34	7.59	+ 3.74	1.56	10.1	15	10	9	12	sw.	William Jennings.
Canton	Hartford	900	49	24.7	.....	48	22	−11	5	35	7.89	.....	3.53	10.0	10	12	5	14	nw.	G. J. Case.
Colchester	New London	370	24	27.4	+ 0.2	53	22	−10	5	36	6.97	+ 2.91	2.15	14.0	14	12	3	16	w.	S. P. Willard.
Cream Hill	Litchfield	1,300	14	25.8	+ 3.2	49	21	−11	5	39	6.62	+ 3.28	1.85	33.2	15	11	3	17	sw.	C. L. Gold.
Danielson	Windham	300	8	25.8	.....	46	21	− 9	1†	39	6.14	.....	1.50	17.5	10	11	9	11	s.	F. E. Bitgood.
Hartford	Hartford	159	6	28.6	+ 3.1	55	21†	− 6	5	30	6.68	+ 2.85	1.95	14.6	15	9	5	17	n.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	12	27.2	+ 1.8	49	22	− 5	5	38	6.22	+ 2.66	1.93	5.0	9	11	6	14	w.	Edson N. Hawley.
New Haven	New Haven	107	123	30.6	+ 3.3	51	22	− 3	5	30	7.28	+ 3.37	1.87	11.5	16	8	8	15	n.	U. S. Weather Bureau.
New London	New London	47	40	31.0	+ 3.2	49	21	− 2	5	40	5.78	+ 1.55	1.11	8.0	13	8	12	11	sw.	Thos. C. Dillon.
North Grosvenordale	Windham	400	20	26.3	+ 1.5	55	21	−10	4	49	4.01	− 0.79	0.70	.....	12	10	5	16	nw.	Grosvenor Dale Co.
Norwalk	Fairfield	116	20	28.2	+ 2.4	48	22	− 2	1†	36	6.48	+ 3.17	1.65	10.0	16	7	9	15	w.	Geo. C. Comstock.
Southington	Hartford	140	41	27.0	+ 2.2	53	22	− 8	5	41	7.60	+ 3.65	1.60	11.0	14	5	16	10	.....	Luman Andrews.
Storrs	Tolland	640	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agricultural Exp. Station.
Torrington	Litchfield	625	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Edwin H. Forbes, Ph. D.
Voluntown	New London	260	25	28.7	+ 0.8	55	22	−11	5	55	4.53	− 0.59	1.25	3.5	10	9	5	17	nw.	Rev. E. Dewhurst.
Waterbury	New Haven	400	35	27.7	+ 2.2	51	22	− 6	5	40	8.05	+ 3.47	2.79	11.5	14	.....	.....	.....	.....	N. J. Welton.
New York.																			
Addison	Steuben	1,000	20	25.2	+ 1.3	45	22	−16	16	47	3.20	+ 1.13	0.67	25.0	15	7	6	18	sw.	H. R. Ainsworth.
Albany	Albany	97	89	25.2	+ 2.7	52	22	− 8	5	42	4.13	+ 1.54	1.22	14.0	16	8	7	16	s.	U. S. Weather Bureau.
Alfred	Allegany	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. O. S. Morgan.
Amsterdam	Montgomery	277	6	22.2	.....	45	22	−14	5	36	4.05	.....	.....	18.0	9	20	0	11	w.	Emery Elwood.
Athens	Greene	90	8	25.1	.....	49	22	−10	17	35	4.55	.....	0.95	17.5	13	6	11	14	sw	E. C. Brooks.
Ballston Lake	Saratoga	400	6	30.5	.....	47	22	−17	5	38	5 18	.....	1.36	23.6	16	10	4	17	w.	Geo. R. Schauber.

TABLE 1.—*Climatological data for January, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York—Cont'd.																			
Bedford	Westchester	450	19	29.4	+ 2.1	54	22	2	4	42	4.32	+ 0.68	1.20	19.0	10	17	6	8	.....	Dr. L. Rosenberg.
Binghamton	Broome	875	19	24.2	+ 1.1	50	22	− 7	17	41	5.12	+ 3.14	1.09	30.6	17	6	3	22	w.	U. S. Weather Bureau.
Bouckville	Madison	1,350	13	20.8	+ 1.3	46	22	−20	5	41	3.83	+ 0.25	0.77	29.0	15	6	9	16	nw.	L. W. Griswold.
Boyds Corners	Putnam	560	28	.....	.....	.....	.....	.....	.....	.....	7.21	+ 3.26	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Carmel	...do	500	18	24.0	0.0	44	21	− 7	5	30	7.44	+ 3.50	2.63	17.0	14	12	4	15	ne.	Do.
Chatham	Columbia	470	9	24.6	.....	51	22	−12	5	32	4.67	.....	1.01	22.0	14	11	6	14	n.	Morton R. Tank.
Cooperstown	Otsego	1,250	56	21.7	+ 1.5	47	21	−14	5	48	5.23	+ 2.60	1.50	33.5	13	9	9	13	sw.	G. Pomeroy Keese.
Corinth	Saratoga	542	8	.....	.....	.....	.....	.....	.....	.....	4.79	.....	1.00	.....	8	.....	.....	.....	.....	A. M. Hollister.
Cortland	Cortland	1,129	48	22.2	− 0.3	43	22	−12	5	35	3.55	+ 0.93	0.65	26.0	17	6	8	17	se.	F. G. Baker.
Cutchogue	Suffolk	32	33	31.4	+ 1.2	52	22	5	5	38	6.29	+ 2.39	1.54	11.0	13	9	15	7	nw.	Wm. A. Fleet.
De Ruyter	Madison	1,300	7	22.5	.....	47	22	−20	5	45	4.20	.....	0.79	31.8	16	7	6	18	s.	B. D. Crandall.
Easton	Washington	.....	20	.....	.....	.....	.....	.....	.....	.....	2.95	+ 0.53	1.10	12.5	7	.....	.....	.....	.....	H. Taber.
Elmira	Chemung	863	31	27.0	+ 2.4	49	21	−10	16	37	2.94	+ 0.89	0.96	.....	7	3	10	18	se.	Gerity Bros.
Fort Hunter	Montgomery	280	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Wing.
Fort Plain	...do	316	6	24.2	.....	53	22	− 3	4	31	3.08	.....	0.96	17.0	15	15	5	11	w.	Abram Devendorf.
Glens Falls	Warren	340	19	20.6	+ 2.2	44	22†	−20	5	37	4.80	+ 1.93	0.90	25.5	13	8	6	17	ne.	Prof. C. L. Williams.
Gloversville	Fulton	850	18	20.2	+ 2.5	44	22	−17	5	36	5.13	+ 1.84	1.58	31.5	13	10	10	11	w.	W. L. McLean.
Greenfield Center	Saratoga	314	12	21.4	+ 1.7	47	22	−19	5	33	5.00	+ 1.42	1.25	22.5	12	11	10	10	s.	S. E. Darrow.
Greenwich	Washington	425	13	22.7	+ 2.5	51	22	−11	5	35	4.63	+ 2.20	1.07	19.5	14	7	16	8	n.	I. V. H. Gill.
Griffin Corners	Delaware	2,260	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Kelsey H. Kelly.
Haskinville	Steuben	.....	15	.....	.....	.....	.....	.....	.....	.....	3.47	+ 1.50	0.93	22.4	10	.....	.....	.....	.....	W. G. Collins.
Homer	Cortland	.....	...	22.4	.....	47	22	−14	5	45	3.82	.....	0.62	23.5	15	12	5	14	nw.	Charles C. Mortimer.
Hoosick Falls	Rensselaer	410	...	.....	.....	.....	.....	.....	.....	.....	4.17	.....	0.98	11.4	15	.....	.....	.....	nw.	Sanford L. Cluett.
Indian Lake	Hamilton	1,705	11	18.6	+ 2.4	46	22	−33	5	60	2.74	− 0.15	0.70	.....	12	10	10	11	nw.	Lester Severie.
Jeffersonville	Sullivan	1,240	7	23.3	.....	47	22	−15	17	52	5.00	.....	1.29	18.0	11	12	11	8	w.	Chas. Wilfert, jr.
Lake Pleasant	Hamilton	.....	...	.....	.....	.....	.....	.....	.....	.....	4.00	.....	1.20	.....	5	.....	.....	.....	.....	Willet Larence.
Liberty	Sullivan	2,300	28	21.6	+ 0.6	43	21	− 8	3	35	5.39	+ 2.56	.....	15.0	10	12	9	10	nw.	Dr. H. M. King.
Little Falls	Herkimer	924	12	21.8	+ 2.4	46	22	−14	5	36	4.15	+ 1.80	1.33	29.5	13	11	12	8	e.	O. J. Dempster.
Mohonk Lake	Ulster	1,245	14	24.8	+ 1.2	49	22	− 4	6	38	7.28	+ 4.32	1.50	18.0	6	10	13	8	sw.	A. K. Smiley.
Morehouseville	Hamilton	1,607	2	18.4	.....	45	22	−28	5	47	3.80	.....	0.85	25.0	15	14	2	15	w.	Theodore C. Remonda.
Mount Hope	Westchester	200	13	27.4	− 0.5	50	21	− 2	17	32	3.20	− 0.63	0.60	13.0	9	6	13	12	.....	Wm. A. Cornelius.
Newark Valley	Tioga	825	23	.....	.....	.....	.....	.....	.....	.....	4.10	+ 1.67	1.07	30.0	13	8	7	16	.....	M. D. Clinton.
New Berlin	Chenango	.....	3	.....	.....	.....	.....	.....	.....	.....	2.34	.....	0.71	.....	15	7	1	23	sw.	Roger Greene.
New Lisbon	Otsego	1,234	20	20.0	+ 1.0	49	22	−17	5	49	4.05	+ 1.66	1.19	27.0	14	4	8	19	s.	G. A. Gates.
New York	New York	314	85	32.4	+ 2.2	51	21	5	5	31	5.61	+ 1.62	1.58	16.6	14	7	10	14	nw.	U. S. Weather Bureau.
North Creek	Warren	1,002	2	19.9	.....	44	2†	−21	5	50	5.73	.....	1.72	22.5	7	17	7	7	.....	W. G. Kenwell.
Northville	Fulton	742	8	.....	.....	.....	.....	.....	.....	.....	2.80	.....	0.75	15.7	11	6	8	17	.....	P. C. Pickard.
Norwich	Chenango	1,015	4	22.2	.....	46	21†	−10	5	30	6.91	.....	1.29	56.0	16	3	12	14	.....	H. S. Hopkins.
Oneonta	Otsego	1,112	16	23.8	+ 0.9	50	22	−11	5	46	5.15	+ 2.83	1.28	29.2	14	11	2	18	sw.	H. W. Lee.
Oxford	Chenango	916	45	22.4	+ 0.2	49	22	−14	8	41	5.36	+ 2.45	1.20	32.0	16	4	8	19	w.	John P. Bavis.
Port Jervis	Orange	470	26	26.0	+ 1.9	49	21†	− 7	17	43	4.34	+ 1.00	0.78	14.0	15	8	10	13	w.	Prof. John M. Dolph.
Salisbury	Herkimer	1,526	13	19.7	− 1.0	47	19	−20	5	37	5.39	+ 2.39	1.51	25.0	14	11	11	9	w.	Joseph Ryan.
Salisbury Mills	Orange	314	11	25.8	.....	54	21	−21	17	59	5.25	+ 1.28	2.00	16.0	8	11	8	12	w.	H. P. Ramsdell.
Scarsdale	Westchester	200	6	30.8	.....	52	22	− 1	5	25	5.55	.....	2.00	23.0	9	12	7	12	ne.	C. H. Wilmarth.
Setauket	Suffolk	40	25	32.2	+ 2.1	54	22	5	5	37	7.62	+ 3.66	2.25	14.0	11	10	9	12	w.	Selah B. Strong.
Sherburne	Chenango	.....	3	.....	.....	.....	.....	.....	.....	.....	3.98	.....	0.92	25.9	12	5	5	21	s.	E. B. Collins.
Southampton	Suffolk	36	9	31.8	.....	50	22	5	5	31	6.46	.....	1.30	13.0	12	12	8	11	nw.	W. L. Jagger.
Southeast Reservoir	Putnam	310	15	.....	.....	.....	.....	.....	.....	.....	8.09	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Spier Falls	Saratoga	400	9	21.2	.....	47	21	−21	5	36	4.91	.....	1.02	23.5	12	14	6	11	sw.	W. F. Anderson.
Trenton Falls	Oneida	751	7	.....	.....	.....	.....	.....	.....	.....	3.70	.....	1.01	.....	14	7	0	24	nw.	C. W. Young.
Tribeshill	Montgomery	268	7	.....	.....	.....	.....	.....	.....	.....	4.00	.....	0.90	25.0	9	10	3	18	w.	R. S. Marshall.
Utica	Oneida	537	44	.....	.....	.....	.....	.....	.....	.....	4.57	+ 1.37	0.64	.....	16	.....	.....	.....	.....	W. E. Young.
Wading River	Suffolk	112	4	30.7	.....	54	22	3	17	37	6.70	.....	1.84	.....	16	18	3	10	nw.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	20	24.2	+ 0.1	48	2†	−18	16	41	6.06	+ 2.19	1.04	16.0	17	7	18	6	se.	H. C. Townsend.
Warwick	Orange	538	16	.....	.....	.....	.....	.....	.....	.....	4.40	+ 1.78	1.00	20.0	11	.....	.....	.....	.....	John W. Sly.
Waverly	Tioga	824	28	21.1	− 2.1	46	22	−16	8	52	3.49	+ 1.19	0.74	20.5	16	2	13	16	nw.	Hon. J. F. Shoemaker.
West Berne	Albany	946	11	22.4	+ 0.9	45	19†	−20	5	47	3.45	+ 1.59	0.60	23.0	11	8	1	22	e.	W. J. Haverly.
West Point	Orange	167	61	26.2	− 1.5	51	22	− 4	17	39	6.10	+ 2.58	2.00	17.5	10	15	6	10	nw.	Maj. Chas. M. Gandy.
Windham	Greene	1,520	10	22.8	0.0	48	22	−18	16	52	5.73	+ 3.48	1.10	16.0	13	6	18	7	sw.	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	22	26.6°	+ 0.3	52°	20	− 1°	16	32°	6.48	+ 3.89	1.12	.....	10	.....	.....	.....	.....	C. W. Billin.
Bethlehem	Northampton	260	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. E. C. Roest.
Clearfield	Clearfield	1,107	2	25.8	.....	45	20	−10	8†	48	5.46	.....	1.43	30.5	11	11	4	16	w.	Raymond C. Ogden.
Emporium	Cameron	1,050	23	25.2	− 1.0	47	18	− 9	16	34	6.50	+ 3.27	1.27	26.7	17	6	3	22	e.	T. B. Lloyd.
Ephrata	Lancaster	384	10	27.8	− 1.3	47	21	3	1	34	3.31	+ 0.34	0.90	18.0	11	10	4	17	n.	W. L. Frants.
Everett	Bedford	1,080	12	29.2	+ 1.3	55	2	− 1	16	39	4.40	+ 1.54	1.05	21.2	11	6	11	14	nw.	B. L. Steckman.
George School	Bucks	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. A. C. Smedley.
Gettysburg	Adams	600	36	28.5	0.0	48	21	0	16	34	4.40	+ 1.40	1.27	30.0	14	8	5	18	s.	Col. E. B. Cope.
Gordon	Schuylkill	804	6	26.6	.....	48	20†	− 9	16	45	5.92	.....	1.70	21.5	16	8	6	17	e.	Capt. J. G. Johnson.
Hamburg	Berks	380	14	28.6	− 0.1	53	2	0	1	31	3.77	+ 0.65	0.94	17.0	9	13	6	12	nw.	W. J. Kalbach.
Harrisburg	Dauphin	361	22	29.4	+ 0.7	47	21	9	17	23	3.91	+ 1.09	1.20	21.5	13	8	4	19	e.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	22	27.3	− 1.3	49	2	− 8	16	40	6.17	+ 2.95	1.18	25.5	13	8	2	21	w.	Prof. W. J. Swigart.
Hyndman	Bedford	977	3	29.8	.....	55	3	1	16	36	4.31	.....	1.06	19.5	12	8	3	20	n.	H. C. Mauk.
Lawrenceville	Tioga	1,006	12	25.0	+ 0.7	47	21†	−22	16	50	3.75	+ 1.58	1.00	26.0	10	8	7	16	.....	C. P. Darling.
Lebanon	Lebanon	458	23	29.3	+ 0.9	49	21	6	16†	31	4.72	+ 1.16	0.99	21.2	17	9	4	18	e.	G. W. Hayes, C. E.
Lock Haven	Clinton	560	22	26.4	− 1.5	49	2	− 2	16	30	6.14	+ 3.06	1.98	19.8	16	2	14	15	w.	Prof. J. A. Robb.
Marion	Franklin	640	6	28.6	.....	50	3	− 4	16	36	4.05	.....	1.10	27.0	9	10	5	16	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	21	27.5	+ 0.4	50	2†	0	1	36	6.10	+ 2.35	1.69	24.2	18	11	5	15	n.	F. C. Wintermute.
Mifflintown	Juniata	445	6	27.3	.....	48	21	−11	16	40	4.14	.....	0.74	17.5	13	9	5	17	w.	Wellington Smith.
Milford	Pike	455	7	24.4	.....	49	2	− 7	17	37	3.27	.....	1.10	18.7	12	6	17	8	se.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	6	21.6	.....	45	19	−11	5	38	5.49	.....	1.20	33.5	16	.....	.....	.....	.....	J. R. Beebe.
Muncy Valley	Sullivan	519	...	25.2	.....	50	21	− 1	15	33	6.48	.....	2.16	15.6	9	12	0	19	.....	F. W. Buck.
New Germantown	Perry	873	6	27.6	.....	53	2	0	17	29	4.69	.....	1.87	20.0	6	15	1	15	w.	Ed. C. Johnston.
Philadelphia (1)	Philadelphia	117	39	33.6	+ 1.8	55	21	9	5	23	4.23	+ 0.82	1.55	9.2	14	8	6	17	nw.	U. S. Weather Bureau.
Pocono Lake	Monroe	1,662	8	22.9	.....	44	3	−12	11	46	7.10	.....	1.20	38.0	13	6	0	25	w.	Pocono Lake Ice Co.
Reading	Berks	280	37	29.6	− 0.1	51	21	2	1†	34	4.03	+ 0.51	0.79	15.2	16	.....	.....	.....	.....	Franklin Yeager.
Scranton	Lackawanna	805	10	27.4	+ 1.9	50	21	− 1	4	38	4.32	+ 1.52	0.98	18.6	20	4	6	21	sw.	U. S. Weather Bureau.
Selinsgrove	Snyder	455	22	26.5	− 2.2	50	21	−10	16	36	5.57	+ 2.46	1.18	30.0	15	3	10	18	se.	J. M. Boyer, C. E.
State College	Center	1,191	22	26.7	+ 0.3	47	20	6	11†	24	6.90	+ 4.06	1.35	37.9	16	.....	.....	.....	nw.	Prof. Wm. Frear.
Towanda	Bradford	754	15	24.8	+ 0.1	48	21†	−11	17	37	3.79	+ 1.91	0.92	18.0	16	7	6	18	e.	Hiram E. Bull, C. E.
Wellsboro	Tioga	1,327	33	24.4	− 0.2	46	2†	−19	16	50	4.23	+ 1.22	1.16	20.0	7	9	8	14	sw.	O. L. White.
West Chester	Chester	455	56	29.9	− 0.2	50	21	5	5	28	5.36	+ 1.32	1.18	22.5	16	8	2	21	w.	J. C. Green, D. D. S.
Wilkes-Barre	Luzerne	575	25	27.7	+ 0.4	51	21	0	17	34	3.83	+ 0.86	1.12	17.0	8	0	6	25	.....	A. W. Betterly
Williamsport	Lycoming	530	20	27.4	+ 0.3	49	21†	− 1	16	32	5.56	+ 2.76	2.01	16.3	8	8	3	20	e.	Henry H. Guise.
New Jersey.																				
Asbury Park	Monmouth	22	22	32.3	+ 0.9	50	19	10	5	28	4.33	+ 0.59	0.82	4.5	12	10	7	14	w.	B. H. Obert.
Atlantic City	Atlantic	16	37	33.9	+ 1.4	49	2	12	4	28	4.64	+ 1.24	1.19	0.5	17	7	7	17	nw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for January, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New Jersey—Cont'd.																				
Bayonne	Hudson	30	20	30.8	+ 0.7	52	18	3	5	31	5.61	+ 1.83	1.10	17.7	16	7	10	14	nw.	J. H. Eadie.
Belvidere	Warren	289	19	26.5	− 1.0	48	21†	− 5	16†	39	5.14	+ 1.57	1.34	21.0	13	10	6	15	.....	S. J. Hixson.
Bergen Point	Hudson	37	13	30.8	+ 0.6	51	18	3	5	30	6.10	+ 1.68	1.10	17.2	15	7	10	14	nw.	Dr. W. H. Mitchell.
Boonton	Morris	413	20	.....	.....	.....	.....	.....	.....	.....	5.31	+ 1.11	1.26	.....	16	.....	.....	.....	.....	F. G. McIntosh.
Bridgeton	Cumberland	30	29	31.9	− 1.1	54	21	5	1	35	4.80	+ 1.38	1.50	6.0	16	7	7	17	nw.	H. A. Jordeu.
Burlington	Burlington	12	26	.....	.....	.....	.....	.....	.....	.....	4.59	+ 1.04	1.45	12.4	14	.....	.....	.....	nw.	D. S. B. McCoy.
Canton	Salem	24	16	.....	.....	.....	.....	.....	.....	.....	4.34	+ 1.37	.....	4.5	16	10	6	15	.....	J. H. Maskeli.
Cape May	Cape May	17	26	33.4	− 0.7	47	3	12	5	28	4.64	+ 1.27	0.90	0.3	19	6	10	15	nw.	U. S. Weather Bureau.
Charlotteburg	Passaic	719	18	26.8	− 0.3	49	2†	−11	16	45	5.94	+ 1.96	1.57	21.0	14	.....	.....	.....	nw.	G. S. Briggs.
Chatham	Morris	234	8	.....	.....	.....	.....	.....	.....	.....	5.94	.....	.....	20.0	16	.....	.....	.....	.....	M. A. Butler.
Clayton	Gloucester	126	17	31.2	+ 0.3	54	21	5	1	33	4.46	+ 1.20	.....	6.0	14	10	6	15	nw.	W. T. Farley.
College Farm	Middlesex	100	15	29.2	− 0.7	51	18†	1	1†	32	6.65	+ 3.13	2.20	18.0	15	7	8	16	nw.	G. B. Thrasher.
Culvers Lake	Sussex	848	9	.....	.....	.....	.....	.....	.....	.....	4.45	.....	0.95	23.0	17	8	9	14	.....	B. E. Riker.
Dover	Morris	575	26	26.4	− 0.2	47	2	0	5	31	6.15	+ 1.66	1.36	20.5	17	7	9	15	.....	W. C. Harris.
Elisabeth	Union	33	31	30.0	− 0.1	48	18†	5	5	28	5.51	+ 1.41	.....	16.0	16	.....	.....	.....	w.	W. M. Oliver.
Flemington	Hunterdon	187	22	28.7	− 0.9	49	21†	− 2	1	33	5.41	+ 1.94	1.10	17.0	16	16	7	14	nw.	H. E. Deats.
Friesburg	Salem	100	18	30.8	− 0.9	54	21	4	1	31	4.06	+ 0.96	1.16	4.0	12	10	6	15	w.	H. C. Perry.
Haddonfield	Camden	75	16	30.9	+ 1.1	53	21	3	1	35	4.39	+ 1.00	1.20	16.6	15	9	5	17	nw.	C. F. Richardson.
Hammonton	Atlantic	80	12	.....	.....	.....	.....	.....	.....	.....	4.30	+ 0.95	.....	3.7	14	.....	.....	.....	.....	Orville Bassett.
Hightstown	Mercer	85	18	30.2	− 0.7	52	21†	0	1	35	4.74	+ 1.05	1.20	13.2	13	8	6	17	nw.	Ernst Werger.
Imlaystown	Monmouth	106	24	30.0	− 1.7	53	21	1	1	36	4.36	+ 0.91	.....	9.4	14	10	5	16	n.	Dr. F. C. Price.
Indian Mills	Burlington	76	21	31.8[b]	+ 0.4	53[b]	21	0[b]	1	39[b]	4.47	+ 0.77	1.12	11.0	15	7	12	12	nw.	James Armstrong.
Jersey City	Hudson	15	12	31.4	+ 0.6	50	22	4	5	29	5.99	+ 2.13	1.57	15.8	16	6	14	11	nw.	S. K. Pearson, jr.
Lakewood	Ocean	54	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. R. Major.
Lambertville	Hunterdon	95	24	29.1	− 1.3	51	21†	− 2	17	36	5.61	+ 1.87	1.37	19.5	14	8	6	17	nw.	W. R. Bowne.
Layton	Sussex	550	11	23.6	− 0.4	48	2†	−15	17	42	3.66	+ 0.16	1.20	17.0	14	7	10	14	.....	W. C. Hursh.
Little Falls	Passaic	175	7	.....	.....	.....	.....	.....	.....	.....	5.17	.....	1.05	14.7	15	.....	.....	.....	.....	A. Sweetman.
Long Branch	Monmouth	30	3	32.4	.....	49	19	9	5	26	5.32	.....	1.07	10.0	14	10	8	13	.....	B. B. Bobbit.
Mahwah	Bergen	312	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. L. Barker.
Moorestown	Burlington	71	48	30.6	+ 0.5	53	21	4	1	32	4.47	+ 0.99	1.30	10.6	15	8	7	16	nw.	J. C. Beans.
Newark	Essex	140	67	30.6	+ 1.0	50	2†	2	5	35	5.12	+ 1.36	1.14	14.7	17	6	10	15	.....	Prof. Wm. Wiener.
New Brunswick	Middlesex	61	57	29.4[a]	− 1.1	51[a]	22	0[a]	1†	32[a]	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. T. Woerner.
Newton	Sussex	678	31	26.1	+ 0.4	51	2	− 5	5	37	5.02	+ 1.52	1.20	23.5	14	7	8	16	nw.	B. H. Kienbaum.
Northfield	Atlantic	.....	3	.....	.....	.....	.....	.....	.....	.....	4.44	.....	1.18	2.3	16	.....	.....	.....	.....	W. L. Flick.
Oceanic	Monmouth	16	24	31.8[a]	− 0.6	49[a]	19†	9[a]	1†	30[a]	5.70	+ 1.72	1.02	10.0	13	10	7	14	nw.	Prof. C. E. Dietz.
Paterson	Passaic	110	39	29.4	0.0	49	2†	1	5	30	5.36	+ 1.39	1.08	16.1	15	5	15	11	nw.	H. A. Probert.
Phillipsburg	Warren	196	13	27.9	− 0.2	50	21	0	5	33	4.76	+ 1.10	0.98	20.6	16	8	9	14	w.	D. W. Smith
Plainfield	Union	100	24	29.4	0.0	50	21	− 1	1	40	5.88	+ 1.99	1.26	17.4	15	7	13	11	.....	John Neagle.
Pleasantville	Atlantic	26	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Van Gilder.
Pompton Plains	Morris	195	8	.....	.....	.....	.....	.....	.....	.....	5.51	.....	1.28	21.0	16	.....	.....	.....	.....	M. S. Taylor.
Rancocas	Burlington	68	47	.....	.....	.....	.....	.....	.....	.....	4.26	+ 0.68	1.00	13.0	13	8	7	16	nw.	Spencer Haines.
Rivervale	Bergen	70	19	26.6[a]	− 1.7	51[a]	2	−10[a]	17	42[a]	4.88	+ 0.74	1.60	13.5	15	9	9	13	nw.	G. S. M. Holdrum.
Runyon	Middlesex	18	4	.....	.....	.....	.....	.....	.....	.....	5.25	.....	1.25	15.7	13	.....	.....	.....	.....	J. H. Cottrell
Somerville	Somerset	76	27	29.2	0.0	51	22	− 2	1	32	5.36	+ 1.88	1.10	15.0	16	8	9	14	nw.	P. Hardcastle.
South Orange	Essex	200	40	29.4	+ 0.7	49	2	2	5	30	5.64	+ 1.50	1.35	14.5	15	9	7	15	w.	Dr. W. J. Chandler.
Sussex	Sussex	442	20	26.0	− 0.1	50	21	−13	16	38	4.65	+ 1.04	1.50	22.5	14	9	9	13	w.	Prof. W. H. Seeley.
Trenton	Mercer	60	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. R. Cook.
Tuckerton	Ocean	23	17	33.2	+ 1.5	52	3	6	1	36	4.83	+ 1.17	1.10	3.5	15	8	7	16	.....	F. R. Austin.
Vineland	Cumberland	118	41	32.4	+ 0.4	54	21	5	1	32	4.29	+ 1.01	1.45	4.2	16	9	9	13	nw.	Alfred Chalmers.
Woodbine	Cape May	43	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. D. Maltby.
West Virginia.																				
Bayard	Grant	2,500	8	29.2	.....	50	20	− 1	11	41	7.18	.....	0.82	32.0	22	6	4	21	w.	Solomon Clark.
Burlington	Mineral	875	15	32.1	+ 1.7	67	3	1	16	34	4.10	+ 1.75	1.40	20.0	8	4	18	9	w.	J. W. Vandiver.
Franklin	Pendleton	.....	3	33.2	.....	62	2	5	16	36	2.65	.....	0.80	10.5	6	13	9	9	.....	A. A. Martin.
Lost City	Hardy	.....	4	33.5	.....	62	3	6	16	34	4.63	.....	1.49	18.0	5	9	6	16	w.	B. D. Hinegardner.
Martinsburg	Berkeley	435	19	29.2	− 1.1	54	3	6	16	29	3.41	+ 1.12	.....	20.0	11	11	4	16	se.	G. W. Van Metre, C. E.
Moorefield	Hardy	900	14	32.6	+ 0.8	62	2	5	8	43	4.79	+ 2.48	1.35	20.0	10	6	15	10	se.	John C. Fisher.
Romney	Hampshire	824	14	30.0	− 1.2	62	2†	6	16	45	4.14	+ 1.54	0.91	23.2	10	5	13	13	w.	John C. Linthicum.
Upper Tract	Pendleton	1 230	12	34.2	+ 3.6	64	2	8	11†	40	4.66	+ 2.25	2.00	10.0	7	4	8	19	n.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	32	32.9	− 1.5	60	18	15	5	24	5.41	+ 2.03	1.50	2.4	7	10	5	16	ne.	W. M. Abbott.
Bachmans Valley	Carroll	860	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore	Baltimore	115	40	34 0	+ 0 6	58	18	13	5	23	4 68	+ 1 46	1 07	12 8	12	8	6	17	nw.	U. S. Weather Bureau.
Cambridge	Dorchester	25	12	35.6	+ 0.3	69	3	14	5	33	4.23	+ 1.13	0.79	6.8	11	12	3	16	s.	T. E. Keenan.
Cheltenham	Prince George	230	10	34.2	.....	62	3	9	1	31	4.60	.....	1.40	4.5	12	9	9	13	nw.	J. E. Burbank.
Chester	Queen Anne	15	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chestertown	Kent	80	25	32.8	+ 0.4	56	21	8	1	27	4.38	+ 1.24	1.31	6.5	11	11	6	14	n.	Hon. M. de K. Smith.
Chewsville	Washington	530	13	30.2	− 0.4	51	21	− 4	16	40	3.03	+ 0.39	0.61	22.7	10	7	11	13	nw.	D. Paul Oswald.
Clear Spring	...do	650	13	29.0	− 0.4	52	4	10	1	39	4 10	+ 0.82	1.25	24.5	8	10	10	11	w.	W. W. Frants.
Coleman	Kent	80	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College Park	Prince George	170	20	32.4	− 0.6	54	20†	2	1	38	.....	.....	.....	.....	.....	9	5	17	nw.	Prof. H. J. Patterson.
Cumberland	Allegany	700	36	.....	.....	.....	.....	.....	.....	.....	4.19	+ 1.81	1.15	.....	13	.....	.....	.....	e.	J. W. Frants.
Darlington	Harford	300	18	29.9	− 0.6	50	2†	6	1	26	5.04	+ 1.87	1.12	7.3	10	8	9	14	ne.	Prof. A. F. Galbreath.
Denton	Caroline	42	15	32.4	− 0.6	57	18†	8	1	32	3.52	+ 1.04	0.85	1.9	8	12	3	16	s.	H. B. Mason.
Easton	Talbot	35	19	33.8	− 0.1	57	21	12	5	26	3.61	+ 0.76	0.71	1.4	12	12	5	14	sw.	Henry Shreve.
Emmitsburg	Frederick	720	37	.....	.....	55	2	.....	.....	.....	5.32	+ 2.19	1.33	22.5	12	12	5	14	nw.	Jno. H. Eckenrode.
Fallston	Harford	450	40	30.4	− 0.3	52	21	9	1†	27	4.76	+ 1.16	1.42	18.0	13	3	12	16	nw.	J. H. Curtiss.
Frederick	Frederick	275	33	31.2	− 0.8	53	3	− 1	16	30	4.85	+ 1.80	.....	22.0	.....	10	5	16	.....	Henry Trail.
Frostburg	Allegany	1, 929	9	27.9	.....	53	3	7	4	28	5.39	.....	0.98	17.4	16	8	8	15	.....	L. B. Abbott.
Great Falls	Montgomery	200	19	32.4	+ 1.1	56	18†	4	1	36	4.21	+ 1.28	1.09	7.0	9	8	20	3	se.	J. W. Bissett.
Green Spring Furnace	Washington	450	18	30.4	+ 0.3	47	19†	9	11	26	3.67	+ 0.95	1.12	20.0	13	11	2	18	w.	E. G. Kinsell.
Keedysville	...do	400	6	30.4	.....	51	20†	− 6	16	43	4.28	.....	1.18	16.0	13	11	4	16	s.	J. A. Miller.
Lake Montebello	Baltimore	.....	1	.....	.....	.....	.....	.....	.....	.....	4.20	.....	1.01	10.1	14	11	4	16	se.	Martin L. Dobler.
La Plata	Charles	190	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. H. Lee Reich.
Laurel	Prince George	150	16	31.0	− 1.8	53	20†	3	1	36	4.22	+ 1.16	1.05	9.0	11	9	11	11	.....	Dr. T. M. Baldwin.
Monrovia	Frederick	630	23	31.0	0.0	51	21	10	16	30	3.73	+ 0.79	0.69	15.9	13	10	4	17	s.	J. H. Lawson.
Pocomoke City	Worcester	37	17	38.6	+ 0.1	60	3†	16	5	38	4.17	+ 1.63	1.06	0.5	10	13	9	9	sw.	R. M. Stevenson.
Porto Bello	St. Mary	38	5	38 1	.....	68	3	20	4†	40	.....	.....	.....	.....	.....	18	4	9	se.	Alpheus Hyatt.
Princess Anne	Somerset	17	17	36.4	+ 1.0	68	7	10	1	44	4.25	+ 1.68	0.84	2.0	13	5	12	14	nw.	Jas. R. Stewart.
Rockville	Montgomery	421	3	32.0	.....	59	20	12	8†	27	4.05	.....	0.85	16.0	13	13	9	9	.....	Dr. Geo. E. Lewis.
Salisbury	Wicomico	23	5	36.2	.....	64	3	9	1	36	4.37	.....	0.77	1.4	12	8	16	7	w.	W. E. Downing.
Sanatorium	Frederick	.....	2	29.6	.....	55	3	8	5	28	5.81	.....	1.93	21.2	10	10	1	20	w.	Dr. W. M. Garrison
Solomons	Calvert	20	19	35.2	+ 0.2	66	3	17	5	29	3.49	+ 0.84	0.73	4.0	14	4	7	20	w.	Dr. W. H. Marsh.
Sudlersville	Queen Anne	65	11	32.0	− 2.0	57	21	0	1	39	4.80	+ 1.53	1.23	3.5	13	10	4	17	nw.	Jas. E. Higman.
Takoma	Montgomery	320	12	31.0	− 0.9	56	18	11	8†	38	.....	.....	.....	9.0	.....	3	15	13	.....	L. M. Moores.
Taneytown	Carroll	450	11	28.9[a]	− 2.5	51[a]	22	−12[a]	16	49[a]	3.68	+ 1.18	1.10	21.2	12	16	2	13	nw.	R. A. Nusbaum.
Towson	Baltimore	465	2	30.8	.....	52	18	7	1	27	5.63	.....	1.73	18.0	13	14	2	15	nw.	C. W. E. Treadwell.

TABLE 1.—*Climatological data for January, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days. .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maryland—Cont'd.																				
Van Bibber	Harford	100	13	39.1[a]	− 2.2	52[a]	2†	− 1	1	34[a]										J. Benj. Ford.
Westernport	Allegany	1,000	16	30.8	+ 1.4	57	3†	6	16	35	4.71	+ 2.30	1.68	19.2	14	.....	.....	.....	.....	Prof. O. H. Bruce.
Woodstock	Baltimore	392	36	32.9	+ 1.0	54	31	6	1	32	3.45	+ 0.08	0.83	17.7	12	6	10	15	n.	Rev. A. J. Donlon, S. J.
District of Columbia.																				
Washington	District of Columbia	112	40	33.7	+ 0.8	58	18	11	1	29	4.39	+ 1.02	1.01	9.5	13	7	6	18	nw.	U. S. Weather Bureau.
Delaware.																				
Delaware City	Newcastle	.....	8	30.8	.....	50	21	10	5	23	1.40	.....	0.55	7.8	7	13	5	13	n.	H. Morton Price.
Dover	Kent	.....	22	32.4	− 2.1	56	18	7	1	33	5.02	+ 1.90	2.48	2.0	9	9	6	16	s.	Thos. F. Dunn.
Milford	...do	.....	26	34.9	− 1.1	58	3	10	1	31	4.89	+ 1.77	1.11	3.0	11	10	4	17	nw.	C. J. Holzmueller.
Millsboro	Sussex	.....	18	34.8	+ 0.4	65	3	6	1	37	4.68	+ 1.65	0.85	0.7	14	14	5	12	sw.	Rev. L. W. Wells.
Seaford	...do	.....	17	34.7	+ 0.6	61	3	10	1	33	4.36	+ 1.29	0.82	1.5	11	10	8	13	s.	E. B. Brown.
Virginia.																				
Culpeper	Culpeper	450	2	33.2	.....	67	3	7	1	35	2.18	.....	1.49	11.0	13	5	14	12	nw.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	31	32.8	0.0	68	3	8	11	36	3.15	+ 0.43	1.12	14.0	13	9	7	15	s.	Rev. L. J. Heatwole.
Doswell	Hanover	134	9																	Rich., Fdksbg. & Pot. R. R.
Eastville	Northampton	15	....	38.8	.....	66	3	17	10	37	2.63	.....	0.50	T.	10	15	6	10	sw.	Thos. B. Robertson.
Fredericksburg	Spottsylvania	100	21	36.3	+ 0.4	70	3	10	1†	36	3.83	+ 1.02	0.98	4.3	14	9	10	12	se.	S. G. Howison.
Lincoln	Loudoun	500	9	30.2	.....	57	3	2	1	34	4.71	.....	1.00	16.5	8	3	11	17	nw.	Dr. Geo. Roberts.
Mount Weather	...do	1,726	6	30.5	− 0.8	61	2	10	4	34	4.53	+ 1.19	1.10	23.3	14	9	5	17	nw.	U. S. Weather Bureau.
Nokesville (near)	Fauquier	350	6	34.6	.....	64	3	10	8†	42	3.20	.....	1.38	10.0	7	9	5	17	.....	Andrew Low.
Quantico	Prince William	16	13	33.0	.....	68	3	7	1	36	4.22	.....	1.90	8.5	10	11	0	20	nw.	Rich., Fdksbg. & Pot. R. R
Shenandoah	Page	937	9	.....	.....	.....	.....	.....	.....	.....	3.41	.....	1.07	4.7	9	12	9	10	sw.	Norfolk & Western Ry.
Staunton	Augusta	1 380	18	35.0	+ 0.1	66	3	13	10	32	3.48	+ 0.74	1.06	17.5	9	9	9	13	sw.	Ernest Nothnagel.
Stephens City	Frederick	710	18	31.2[b]	− 1.0	67	3	0	16	44	4.19	+ 1.80	0.94	18.0	10	16	1	14	e.	B. T. Argenbright.
Warsaw	Richmond	160	18	35.9	+ 0.1	75	3	12	8†	35	3.94	+ 1.40	1.00	1.0	12	7	16	8	n.	C. H. Constable.
Woodstock	Shenandoah	927	14	32.6	− 0.2	68	3	7	16	37	3.77	+ 1.48	1.32	18.0	11	7	8	16	w.	Miss A. G. Miley.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
° Precipitation included in that of the next measurement.
°° Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 1, North Atlantic States.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maine.																															
Bar Harbor	Coast		T.	.10		.20	.50	.30			T.					.05			.55	.15		T.	.40				T.		.15	.90			3.30
Cornish	Saco			.05		.20	.56	.61								.05			.38			.10	1.04			.25		.05	.10	.86	T.		4.25
Danforth	Penobscot			T.	.16		.15	.50			T.								.12	.33			.65	.15				T.	.05	.50	.30		2.91
Debsconeag	do																																
Eastport	Coast		.02	.16		.14	.49	.43			T.								.57	.23			.44				.04	.12	.19	.90	.05	.02	3.80
Fairfield	Kennebec						*	.42											.16				.43					.36			.82		2.19
Farmington	do			.02	.04	.09	*	.65											.30				1.58			T.		T.		.80			3.48
Gardiner	do			.01			.53	.61	.01										.31	.02			.62	.05			.09		.15	.65	.17		3.22
Greenville	do	T.	T.	.10	.05	.10	.05	.40			T.			T.					.47			.30	1.38				.10		.05	.43			3.43
Houlton	St. John			.05				.20																.05				.45		.20			0.95
Lewiston	Androscoggin			.01	.02	.18	.58	.45								T.			.34			.03	1.03					.03	.10	.65	T.		3.44
Madison	Kennebec				T.	.29	.14	.50											.26	.26			1.44				.07		.08	.79	.30		4.13
Millinocket	Penobscot		T.		.05		.11	.35	.10										*	.58			.83	1.10		.03			.04	.06	.80		4.05
North Bridgeton	Saco			.02			.60	.65											.41				1.04		*	.18		.07		.80			3.77
Orono	Penobscot			.05			.46	.55											.24				1.23				.05		.30	.69			3.57
Oquossoc	Androscoggin					*	.55	.40											.50				1.15			.10		.35		.75			3.80
Patten	Penobscot					T.	.20	.60	T.										.30	.26			1.17	.27			T.		T.	.30			3.10
Portland	Coast			.04		.17	.63	.44							.65	T.			.27	.01		.02	.53					.02	T.	.72	T.	T.	2.90
Presque Isle	St. John						.24	.21		T.	T.								*	.28			.54					.22		.40	T.		1.89
Rumford Falls	Androscoggin			.02		.20	.31	.27											.26			.42	1.58			.07	T.	.03		.72			3.88
The Forks	Kennebec		.25				*	.35											.40			1.00	.50							.48			2.98
Winslow	do					*	*	.95											.26				.64			.10		.30		.87			3.12
New Hampshire.																															
Alstead Center	Connecticut			.09		.18	.73	.48							T.	.10			.25	.30		.08	.74			.05	T.	.21	T.	.43	.02	.03	3.59
Benton	do						*	.85												.06		*	1.10		T.	T.			.20	*	.19			2.40
Bethlehem	do						.71	.45											.06	.19		.05	.81			.10	.10	.05	.20	.30	.25			3.17
Brookline	Merrimac			.05		.20	.60	.50							1.00				.20			1.30	.10			.01		.05		1.10			5.11
Concord	do			.16		.22	.66	.41							.13	.03			.46	T.		.79	.29			.05		.10		.78	.02			4.10
Durham	do			.02			1.35	.10								.05			.20				.53			.20		.02		.45			2.90
Franklin	do			.18		.16	.37	.58								.12			.31	.13		.06	.90			.01		.08	T.	.57	.01	T.		3.48
Grafton	do			.05	.07	*	.60	.50								.05			.35	.25		.02	1.25			.05		.10		.37	.14			3.80
Hanover	Connecticut					.19	.38	.46											.22	T.		.07	.70			.10	T.	.12	T.	.17	.09	T.		2.50
Keene	do			.06		.20	.78	.50							.05	.12			.27	.13		.07	1.05			.03		.17		.44	T.	.05		4.01
Nashua	Merrimac			.04	T.	.19	.58	.68							*	1.05			.28			.30	.36			.13		.04	.01	.79	.01	.03		4.49
Newton	do			.04		.03	.78	.78							.24	.40			.29			T.	.58			.26		T.		.74		.06		4.20
Plymouth	do			.02		T.	.59	.33											.39	.23		.10	1.66			T.		.11	.06	.56				4.05
Vermont.																															
Bloomfield	Connecticut			T.			.59	.27											.11	.23			.83	.22		T.	.10		.44	.12	.23			3.14
Cavendish	do			.36			.37	.47							T.	T.			.39	.43		.19	1.40			.22		.11		.25		T.		4.19
Chelsea	do			T.		.15	.30	.40											.38			.45	.60			.25	.25	*	*	.18				2.96
Jacksonville	do		.15		.35	.13	.15					T.	T.		.02			.05	T.			.15	.90						1.16	.01				3.07
Manchester	Hudson					*	.53						T.		.03				.65			.21	.17			.13		T.	T.		T.			1.72
St. Johnsbury	Connecticut			T.	T.	.10	.60	.40					T.	T.					.01	.07		T.	.73	T.		.01	T.	.02	.18					2.12
Vernon	do			T.		.70	.70	.05						T.	T.			T.	.67			1.88	T.					.22	T.					4.22
Woodstock	do			.12		*	1.12												.43			*	1.52			.14		.C9		.51	.06			3.99
Massachusetts.																															
Amherst	Connecticut			T.		.20	*	1.29							*	.96			.46			1.20	.90			.20	T.	.18	.10	.51	.14			6.14
Ashland	Merrimac			.06		*	*	1.91							*	1.10			.35			*	.65			.50	.05	.06		.73	.04			5.45
Bakers Bridge	do						.70	.89							.30				.25				.45							.65	.03			3.27
Bedford	do			T.	.02	*	.73	.93							.46	.19			.24			.03	.47			.22	.07	.06		.64		.04		4.10
Blue Hill	Coast			.10		.03	.76	.89			.15				.53	.37			.20	.12		.01	.49			.28	.21	.C3		.69	.01	.02		4.89
Boston	do			.05		.11	.69	.91			.06				.53	.10			.28	.05		.03	.37			.40		.01	T.	.65	.01			4.25
Chestnut Hill	do			.09		.38	1.52	.16			.05				*	1.43			.40			.41	.32			.47		.05	.26	.54	.C3			6.11
Clinton	Merrimac		.04			*	*	1.97							*	1.32			*	.35		*	1.19			.43		.08		1.00		.11		6.49
Concord	do			.04		.05	.78	.90							.29	.40			.23	T.		.08	.49			.16	.C9	.06		.68	.01	.04		4.30
Fall River	Coast					.10	1.23	.75			.17				.90	.40			.27	.03		.02	.54			.45			.05	.78		.03		5.72
Fitchburg	Merrimac			T.		.10	.65	.74							.45	.51			.35	.02		.75	.80			.15	T.	.06		.46	T.	.C3		5.07
Framingham	do			.02		*	*	1.84							*	.93			.29			*	.59			.48		.10		.70		.03		4.98
Haverhill	do																																
Hingham	Coast			.09		*	*	1.56			.14				*	1.15			*	.26			.38			.40		T.		.84	T.	.01		4.83
Hyannis	do					.02	.35	1.38		*	.66				*	1.30			*	.40			.80			*	.80			.84		.23		6.78
Jefferson	Merrimac						*	1.99							*	1.29			.51			*	1.44			.74		.14		.88				6.99
Lake Cochituate	do			.05			*	1.85							*	1.03			.32			*	.64			.44	.03	.05		.68		.02		5.11
Lawrence	do			.03		*	*	1.46							*	.63			.28			*	.66			.24		.03		.62		.05		4.00
Leominster	do			T.		.18	.55	.88							.56	.42			.36	.00		.39	1.08			.21		.12		.83		.05		5.72
Lowell	do			.04		*	*	1.50							*	.90			.29				.58			.21				.89				4.41
Middleboro	Coast			.05			.76	.91			.10				*	.98			.32				.50			.34			.42	.44		.06		4.88
Monson	Connecticut					.02	1.15	.95							.15	.50			.30			.25	1.00			.35	.05	.05		.75	.05	.05		5.62
Nantucket	Coast	T.		.01	T.	.01	.43	.97		.44	.30				1.07	.50			.66	.07			.87			.67	.01	.01	.01	.85		.02		6.90
Norfolk	do			.18			1.02	.72		.24	.11					.57				.19			.47			*	.32	.04		.44		T.		4.30
Northampton	Connecticut			T.		T.	.78	.98							*	1.30			.32	.07		*	2.09			.22		.07		.26	.06			6.15
Plymouth	Coast			.02		*	*	1.28		*	.30				*	.80			.07				.56			.52		T.		.87				4.42
Princeton	Merrimac					*	*	1.54							*	.86			.48			*	1.44			.48		.06		.46		.11		5.43
Provincetown	Coast			.05	T.	T.	.55	.98			.20				.10	1.80			.46	.10			.52			.65		T.		.80		.12		6.33
Rockport	do						1.10	1.20								1.00			.35				.50				.20			.75		.10		5.20
Rutland	Connecticut			.02		*	*	1.94							.72	.02			.46			*	1.16			.36	.05	.02	.53	.20	.05			5.53
Salem	Coast																																
Somerset	do			T.			*	1.91			.30				*	.82			.15				.91			.38		T.		1.10	.05			5.62
South Egremont	Housatonic					.40	1.36	.22			.05				.63				.28			2.05				.20		.12	.39	.24	.10			6.04
Spot Pond	Coast			.04		*	*	1.74		.02					*	.90			.38			.24	.34			.40	.02	.C2	*	.67	.03			4.80
Sterling	Merrimac					*	*	1.60							*	.92			.20			*	1.30			.38		.10		.79				5.29
Taunton	Coast			*	.08	*	*	2.24			.04				*	2.05			*	.53		*	.69			*	.38	.04		1.00		.04		7.09
Turners Falls	Connecticut			.C2		*	*	1.80								.58				.52		*	2.02			.22		.08	*	.61	*	.09		5.94
Westboro	Merrimac			.05		*	*	2.00								1.25			.27		*	.60				T.		.10		.90		.05		5.22
Williamstown	Hudson			.10		.10	.98	.51			.05	T.			.05	T.			.40	T.		.13	.88			.22		.11		.32	T.	.05		3.90
Winchendon	Connecticut			.04		.10	.78	.83							.20	.35			.34	.15		.14	1.27			.07		.12		.65				5.04
Worcester	Coast			T.		.04	.88	.69							.41	.29			.42			.59	.64			.45		.08		.59	T.	.02		5.10
Rhode Island.																															
Block Island	Coast			.02		.15	.75	1.15		.02	.10				.56	.02			.31	.04		.03	.28			.65	.09	.01	.08	.54		.06		4.86
Bristol	do			T.		*	*	1.92		T.	.22				*	1.14			.19	.14		*	.33			*	.43	.03		.74		.04		5.18
Greene	do						*	2.09							*	.80			*	.40			.89			*	.72			.53				5.38
Hope Valley	do			.01		T.	1.69	.81			.05				.70	.40			.29	.20		.03	.51			.39	.32	.04		.56	T.	T.		6.00
Kingston	do					.08	1.80	1.20			.20				*	1.40			.47			.08	.40			.27	.45	.04		.59		.14		7.03
Narragansett Pier	do			.02		.40	1.00	.84			.25				.60	.15			.43			.15	.30			.61	T.	.04	.20	.52		.06		5.57
Pawtucket	do																																
Providence	do			.04		.08	.75	.85			.13				.83	.28			.28	.03		.04	.27			.65	.C1	.03	.07	.49	T.	.02		4.85
Wallum Lake	do					.75	1.50	1.00							.30	.35			.50			.70								.40				5.50
Connecticut.																															
Bridgeport	Coast			.09		.02	1.38	.82							.75	.17			.65	.05		.45	1.56			.73	.01	.08		.79	T.	.02		7.59
Canton	Connecticut			.04		*	*	1.67							.91				.43			*	3.53			.48		T.		.83	T.			7.89
Colchester	Coast			T.		*	*	2.13							*	1.00			.48			*	2.15			*	.45	.10		*	.64	.02		6.97
Cream Hill	Housatonic			.03		.08	.48	.37			.08				.70	.30			.59			.90	.95			.72		.24		.98	*	.20		6.62
Danielson	Coast			.05				1.50								1.20			*	.40		*	1.5			.77				.62	.05	.05		6.14
Falls Village	Housatonic					.10	1.20	.25							.74	.10			.25	.10		1.85	.36		.05	.37		.10	.15	.52	.10			6.18

TABLE 2.—*Daily precipitation for January, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Connecticut—Cont'd.																															
Farmington	Connecticut														.74	.17		T.	.35			1.08	.87			.34	.04	.06	.15	.68	T.	.01	6.68
Hartford	do			.08		.33	1.02	.76																								6.22
Hawleyville	Housatonic					.10	.80	1.12											.43	.11		1.00	1.93			.40				.33			6.30
Lake Konomoc	Coast						1.91	.73								.45			.47				1.35				.75	.05		.50	.09		7.28
New Haven	do			.04		.25	.99	.67							1.23	.06		.06	.65			1.00	.87			.60	.02	.05	.12	.65	.02		5.78
New London	do						1.11	.68							.32	.45			.28	.45		.20	.90				.46	.10	T.	.70	.10	.03	4.01
North Grosvenordale	do			.10			.65	.52							.70				.15	.10		.02	.55			.65		.05		.50		.02	6.48
Norwalk	do			.08		*	*	2.42							*	.50			*	.55		*	1.65			.54	*	.06	*	.65	.03		7.60
Southington	do			.05		T.	1.25	1.00							.60	.50			.40	.10		1.60	.75			.30	T.	.05		.80	.15	.05	6.37
South Manchester	Connecticut				*	*	1.90								*	1.00						*	2.24			.21		*	*	1.01	.01		
Storrs	Coast																															
Torrington	Housatonic																															
Voluntown	Coast					T.	1.25	.85							.25				.25	.25		T.	.65			.35	.23	T.	T.	.40		.05	4.53
Wallingford	do			.04		.85	1.20	.10						.20	1.10	.25		.30	.38			1.83				.46	.04	.04	.63	.19	.01		7.62
Waterbury	Housatonic			.07		*	1.09	1.14							*	1.10			*	.51		*	2.79			.47		.08	.77		.03		8.05
West Simsbury	Connecticut			.03		*	*	1.53							*	.60			.35			*	2.58			.34		.09	.72	.03			6.27
New York.																																
Addison	Susquehanna			.02		.14	.52	.24		T.	.02			*	.67	.12		T.	.25			.61	.13	.06				.04	*	.28	.07	.05	3.20
Albany	Hudson		T.	.11		.13	1.22	.26		T.	.04				.37	T.		T.	.24	T.		.45	.53		.08	.23	.04	.06	.04	.31	.02		4.13
Alfred	Susquehanna																															
Amsterdam	Mohawk			.15		*	*	2.15							.12				*	.48		T.				.20				.95			4.05
Athens	Hudson			T.		.06	.72	.60			.02				.22	.50			.24	T.		.30	.95	T.	T.	.32		.06		.48		.08	4.55
Ballston Lake	do			.11		*	1.36	.46			.03				*	.51			.41	.08		*	.56		T.	.77		.17	T.	*	.64	.08	5.18
Bedford	Coast			.10			.60	.72								1.20				.08		.35				.25	.10	.14		.80			4.32
Binghamton	Susquehanna			.03	T.	.24	1.09	.02		.08	.03				1.40		T.		.42			.60	.01		.02	.14	.01	.07	.05	.75	.16		5.12
Bouckville	do			.25		.15	.77	.25			.20				.60				.39			.15	.22			.20		.05	.05	.30	.15	.10	3.83
Carmel‖	Hudson			.09		*	.46	1.11							.21	.61			.61			*	2.63			.19	.19	.17	*	1.17			7.44
Chatham	do			.01	T.	T.	.82	.48			.15				.36	.60			.06	.04		10	1.01			.35		.14		.50	T.	.05	4.67
Cooperstown	Susquehanna		.10	.05		1.16	1.50				.10				.40				.57			.20				.17		.13	.10	.57	.18		5.23
Corinth‖	Hudson					1.00	.65	.60										.62	.70				.72				.30	.20					4.79
Cortland	Susquehanna			.08	.01	.16	.63	.36			.07				.31	.08			.65	.04		.26	.23			.07		.14	.10	.20		.16	3.55
Cutchogue	Coast			T.		.37	1.01	.09							.80	.20			.52	.11		.33	1.54			.61	.10	T.		.59		.02	6.29
De Ruyter	Susquehanna		T.	.09	.30	.50	.79	.35		T.	T.			*	.27			*	.76	.61		.34	T.	.06	*	.10	*	.17	.06	.33	.15	.62	4.20
Easton	Hudson			.16		.76													.53			1.10					.12	.18			.10	2.95
Elmira	Susquehanna					.20	.60	.39							.34							.96									.35	.10	2.94
Fort Hunter‖	Mohawk																															
Fort Plain	do		.02	.10		.18	.96	.42			T.				.28	.01			.40	.02		.63	.10	.01	T.	.14		.14	T.	.27	T.	T.	3.08
Glens Falls	Hudson		*	.15		.60	.90	.43		*	.04			*	.08			*	.85	.14		.05	.90		T.	.25	*	.12		*	.25	.04	4.80
Gloversville	Mohawk		T.	.13		1.58	.50	.48							.28				.83	.02		.05	.22		T.	.26		.20		.42		.16	5.13
Greenfield Center	Hudson			.10		.60	1.25	.50			.10				.20				1.00			.50				.30		.20		.15		.10	5.00
Greenwich	do					.47	1.07	.39					T.		.06	.02			.62	.12		.02	1.02		.01	.27	T.	.26		.15	.11	.05	4.63
Griffin Corners	Delaware																															
Haskinville	Susquehanna			.25			.30			*	.40				.50	.22			.30			.93					.20			.18	*	.19	3.47
Homer	do			T.	.16	.05	.28	.61	.35		T.	.08			.30	T.		T.	.62	T.		.51	T.			.09		.30	.02	.33	.09	.03	3.82
Hoosick Falls‖	Hudson				.12		.83	.98	.02		.03				.28					.31			.70			.03	.25	.30	.04	.11	.14	.03	4.17
Indian Lake	do	*	.20	.30		.20	.20	.08											.76	.68		.30				.15		.65		.45		.03	2.74
Jeffersonville	Delaware			.07		.55	.31	.69			T.				.37				.64	T.		1.29	T.	T.	T.	.43	T.	.11		.38	T.	.16	5.00
Lake Pleasant	Hudson						.90											1.20				.90						.50	.50				4.00
Liberty	Delaware				T.	T.			.14		.19				.10	.08	.20					*	3.70		T.	.51		.30		.15	.04		5.39
Little Falls	Mohawk		.03	T.		.70	1.33	.40							.08				.43			.03	.09			.23		.10	T.	.64	.05	.04	4.15
Mohonk Lake	Hudson							1.45							1.50				.63				1.35			1.00				1.35			7.82
Morehouseville	Mohawk		.10	.15		.08	.85	.30							.02				.80	.05		.20	.20			.30		.15	.15	.30	.15		3.80
Mount Hope	Coast					.15	.40	.50							.40	.20			.25			.60				.30				.40			3.20
Newark Valley	Susquehanna		T.	T.	.08	.30	1.07	.35							.60	.10			.46			.46	.04			.05		T.	.05	.40	T.	.14	4.10
New Berlin‖	do			.06	T.		.06	.71						*	.10	.22	T.		.11	.31	.02	*	.14	T.	*	.13	*	.03	.04	.05	.25	.11	2.34
New Lisbon	do		.01	.09		.27	1.19	.30							.37	.66			.47			.18	.08			.17		.10		.63		.13	4.05
New York	Coast			T.		.17	.88	.56			T.			.02	1.57	.15		.09	.28			.75	.12		T.	.27	T.	.01	.32	.42	T.		5.61
North Creek	Hudson					*	1.70	.26											1.00			*	1.72		*	.21		.05		.79			5.73
Northville‖	do		.10			.08	.08											.55	.75			.52			.20		.20		.10	.10	.12		2.80
Norwich	Susquehanna	T.			.21	.19	.98	.84			.02	T.			.22	1.16			.12	.54		.25	.46		.19			.22	.04		1.29	.18	6.91
Oneonta	do			.13		.30	1.28	.35							.36	.14			.48			.40	.62			.27		.16		.48	.12	.06	5.15
Oxford	do		T.	.20	.10	.38	1.20	.38	T.		T.				.30	.30			.60	T.		.15	.05	T.	T.	.20		.20	.10	1.00	.10	.10	5.36
Port Jervis	Delaware		.04				.21	.78			.01				.46	.40			.20	.08		.42	.73		*	.31	.16		.32	.20	.02		4.34
Salisbury	Mohawk		.84	.09		.21	1.51	.11							.11				1.11	.21		.14	.20			.11		.18		.48		.09	5.39
Salisbury Mills	Hudson			T.				1.10						*	.95			.03			*	2.00			.37			.80				5.25
Scarsdale	Coast			T.		T.	1.50	.20				T.			.20	2.00		T.	.75			T.	.10		T.	.15	.50		T.	.15	T.	T.	5.55
Setauket	do			T.		.14	1.06	1.12							1.00	.06		*	.53			.61	1.64		*	.77		.04	*	.65		T.	7.62
Sherburne‖	Susquehanna			.10		*	.92	.67			T.			*	*	.37			.17	.33		*	.34	T.	*	.14	*	.08	T.	.12	.59	.15	3.98
Southampton	Coast			T.		T.	.85	1.30							.60	.58			.19	.24		T.	1.12			.60	.37	.06		.51		.04	6.46
Spier Falls	Hudson					.55	.75	.40			T.				.06				1.02	.28		.30	.50			.42		.22		.33		.08	4.91
Trenton Falls‖	Mohawk		T.	.18	.04		1.01	.40	T.		.02					.09			.35	.78	T.		.12	T.		.17		.15	T.	.03	.30	.06	3.70
Tribeshill‖	do			.20		.30	.20	.60							.30				.70				.90			.20					.60		4.00
Utica‖	do				.02	.64	.54	.30	.12		.18			.02	.20				.08	.12		.51					.04	.40	.35	.60	.45		4.57
Wading River	Coast			.04		.01	1.84	1.04							.32	.03		*	.23	.25		.42	1.31			.43	.03	.05	*	.65	.03	.02	6.70
Wappingers Falls	Hudson			.10		.21	.72	.30							.92	.12		*	.53	.10		.87	.74		.10	.18	.10	.22		.58	.12	.15	6.06
Warwick	do			.08		.15	.35	.45			.05				.92				.25			1.00				.45	.10		.60				4.40
Waverly	Susquehanna			T.	.01	.01	.74	.69	T.		.05	T.			.50	.18			.30	.08			.53	.01		.06		.05		.07	.07	.14	3.49
West Berne	Mohawk			.10			.41	.20			.20				.60	.20						.48	.35			.40				.50		.10	3.54
West Point	Hudson						.15	1.20	T.		.10				*	1.10			.70			*	2.00			.10		.30	.30	.15		T.	6.10
Windham	Mohawk			.16	T.		1.10	.58							.22	.43			.14	.11		.82	.78		T.	.44		.11		.65	.19	T.	5.73
Pennsylvania.																																
Altoona	Susquehanna			T.		.72	1.10						T.	.81	.46			T.	.83			1.12	.50					T.	.42	.35	.17		6.48
Ansonia‖	do			.05	.01		.74	.42							.50	.14			.13	.21		.15	.81	.10		T.		.03		.17	.03	.12	3.61
Bellefonte	do					1.30	.55	.05							.50	.15			.05	.53		1.15	.25					.25		.60	.30		5.68
Bethlehem	Lehigh																															
Browers Lock	Schuylkill					.42	.94	.34							.03	.72	.04		.10	.31	.05		.15	1.02	.15	.15	.04				.07	.16	4.69
Catawissa	Susquehanna			.05		.57	.91	T.		.02					.20	.32			.05	.63		.91	.05		.10	.07	.10		.20	.40	.01		4.59
Center Hall	do					.33	1.30	.54							.10	.40				.43		1.00	.10					T.	.10	.84	.30		5.44
Clearfield	do			.02		.47	.40	.51		T.					.25	1.43	T.			.67			.21				T.	.34		.80	.36		5.46
Coatesville	Coast					.30	.48	.58			.01				.08	1.43	.07		.06	.49			.84	.04		.03	.08	.16		.45	.54			5.64
Doylestown	Schuylkill						.96	1.02							1.34					.61			1.18	.38		.41				.10	.78			6.78
Drifton	Susquehanna			.20		.30	.40	1.00			.12					.70				.85			2.10	.20		.07	.30	.10		.15	.45	.07		7.01
Emporium	do	.03	.12	.08		.12	.90	.60		T.					.30	.50		T.	1.12				1.27	.42	.20		T.	.04	.07	T.	.23	.30	.20	6.50
Ephrata	do					.20	.13	.27						T.		.90	.11			.43			.47	.17		.03	.22	T.	T.	T.	.38			3.31
Everett	Juniata					.02	.48	.81						*		.60				.31			1.05	.20				T.	.22	*	.71	T.	T.	4.40
Forks of Neshaminy	Delaware		.01				*	2.03							*	1.60		.37	.12				.50	.23			.23		.01		.75			5.85
George School	do																															
Gettysburg	Potomac					.10	.20	.52						.20	1.27	.08			.43	.02		.70	.15		.08	.07	T.		.08	.50			4.40
Girardville	Susquehanna					.41	.70	.30		.06	.06			.40	.80			.12	.60			2.00	.20		.24	.08	.14	.08	.16	.40	.04		6.88
Gordon	do			.02		.30	.51								*	.94			.77	.11		1.70	.41	.08	.08	.24	T.	.11		.51	.08	.06	5.92
Hamburg	Schuylkill					.24	.37	.19						.23	.64				.94			.67			T.	.25			T.	.24			3.77
Hanover	Susquehanna					.21	.62			T.				*	*	1.10		*	.47			.74	.10		*	.16	T.		*	.70	T.		4.10
Harrisburg	do					.36	.31	.27		T.				.33	1.07			.12	.35			.40	.11		.06		.01		.11	.41	T.		3.91
Huntingdon	Juniata					.46	.70	.77						.15	.85	.25		T.	.43			1.18	.31	T.			.04	.13		.70	.20			6.17

TABLE 2.—*Daily precipitation for January, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylvania—Cont'd.																																	
Hyndman	Potomac	T.	T.	T.		.09	.97	T.		T.			.33	.65	T.			.39	.06			.90	.15				.05	.22	.20	.30	T.	T.	4.31
Kennett Square	Coast																																
Lancaster	Susquehanna					*	1.11			T.				*	.65				.43			.70			.30				*	.20			3.39
Lansdale	Schuylkill					.07	.50	1.79						.05	.61			.59				.97				.26			.40	.37			5.61
Lawrenceville	Susquehanna			T.		T.	1.00	.50							.35	.15			.30			.80	T.	.05						.40	.10	.10	3.75
Lebanon	do					.10	.48	.75			.02			.02	.99	.11			.62	.02		.66	.09		.10	.14	.01	.02	T.	.58	T.	.01	4.72
Le Roy	do			.10	.01	.25	.82	.45		.01	.08				.35	.20			.24	.02		1.00	.15	.03		.10	.02	.05		.45	.15	.02	4.50
Lewisburg	do					1.04	.38	.68						1.00	.30			.50	.10			.61	.28		.06	.04	.04	.06		.65	.20		5.94
Lock Haven	do		.05	.10		.12	1.51	.48	.05					.10	.40	.02			.25			1.00	.81	.05				.20		.60	.40		6.14
Marion	Potomac			T.		.40	.45							.26	1.10	.10			.27			.52	.27		T.				T.	.68	T.		4.05
Mauch Chunk	Delaware		.04			.41	.16	.70			.05				.96	.06			.65			1.69	.17	.08	.04	.31	.02	.10	.08	.53	.05		6.10
Mifflintown	Juniata			T.		.43	.52	.56						.04	.74	.03			.34			.74	.29	.03			T.	.03		.32	.07		4.14
Milford	Delaware			.05		.02	.01								1.10				.32			.67				.34	*	.11		*	.63	.02	3.27
Montrose	Susquehanna			*	*	*	1.60	.05	T.	.30					1.20	.30		*	.58			.35	.25		T.	.20	.08	T.		*	*	.58	5.49
Mountain House	Juniata					*	1.52							*	*	.70			.38			1.81	.40						.80			.04	5.65
Muncy Valley	Susquehanna					T.	2.16	T.		.13				.18	.60				1.62			.98	T.		.11		T.			.45	.25	T.	6.48
New Germantown	do						.50							1.30					.42			1.87	.20							.40			4.69
Ottsville	Delaware						.70	.63							.23	.02			.46	.01		.64	.13			.29		.02		.39			3.52
Philadelphia (1)	do					.28	.92	.63						.15	.61	T.		.11	.27			.37	.02		.10	.14	T.	.01	.41	.21	T.		4.23
Pocono Lake	do					.40	.10	.80		.20	.20				1.20				.70			1.04	.76		.10	.40			1.00	.20		7.10
Point Pleasant	do					.09	.85	.87							.94				.50			.75	.16			.22		.07	.70			5.15
Pottsville	Schuylkill					.39	.25	.57			.01				1.04	.05			.70			2.04	.06		.15	.14	.08	.03	.25	.15			5.91
Reading	do			.04		.46	.39	.38						.24	.45			.07	.41			.74	.05		.15	.10	.02		.27	.25	.01		4.03
Renova‖	Susquehanna			T.	T.		.80	.66			T.				.50	.20			.32	.34		.14	1.66	.08				.10		.26	.12	.12	5.30
Scranton	do			.04	T.	.20	.90	.15		.08	.19			.05	.44	.25		.02	.36			.65	.02	T.	.11	.11	.13	.01	.09	.44	.08		4.32
Seisholtzville	Schuylkill					.38	.25	.67							.34	.13		.02	.48			1.23	.02		.04	.21			.16	.51			4.44
Selinsgrove	Susquehanna			.02		.05	.74	.57						T.	.75	1.18			.44			.56	.39	.01	T.	.07	T.	.01		.70	.05	.03	5.57
Shawmont	Schuylkill					.04	.50	1.20							.75	.04						.52	.15			.24		.05	.30	.40			4.19
Smiths Corners	do					.24	.47	.85							.42	.09			.52			.73	.11			.22		.10	.24	.41			4.40
Spring Mount	do			.03				1.24								1.05			.40			.69	.03			.22		.05		.62			4.33
State College	Susquehanna		T.	T.		.55	1.35	.28		.01	T.			.20	.75			.11	.53			.90	.68	.10		T.	.01	.33	.05	.75	.30	T.	6.90
Towanda	do			.04	.01	.05	.92	.54			.14				.50	.20			.15			.56	.07	.02		.10	T.	.20		.24	.05	T.	3.79
Wellsboro	do			T.			*	1.16							.76				.52			.81	.34							.56		.08	4.23
West Chester	Coast					.30	.33	.84			.02			.05	1.18	.08		.04	.50			.72	.08		.03	.19		.01	.55	.44			5.36
Wilkes-Barre	Susquehanna			.05		T.	1.12	T.							.71				.90						.30	T.	.05		T.	.50	.20		3.83
Williamsport	do			T.			2.01							*	.73				.62			*	1.73		.03		T.	.08		.24	.12		5.56
New Jersey.																																	
Asbury Park	Coast					*	.78	.80						*	.65	T.		*	.35			.27	.55			.43			*	.50			4.33
Atlantic City	do			T.		.09	.32	.89		T.	.03			.09	1.10	.02		.07	.40			.52	.03		.04	.31	T.	.03	.35	.33		.03	4.64
Bayonne	do			.01		.06	.94	1.09			.02			*	1.10	.40		*	.49			.29	.44		T.	.27	T.	.02	*	.48	T.		5.61
Belvidere	Delaware					*	*	.90						*	1.34			*	.52			.57	.52		*	.30			*	.99			5.14
Bergen Point	Coast					*	1.09	1.10			.04			*	.92	.41		*	.51			.41	.47		T.	.36	T.	.05	*	.74	T.		6.10
Boonton‖	Passaic			*	.04	*	.56	1.04	.03		T.			*	.36	.43		*	.32	.16		.08	1.18		*	.19	.13	.07	*	.64	.08	T.	5.31
Bridgeton	Coast					.25	1.50	.25						*	.80	.10		*	.25			.40	.20		*	.25	*	.30	.30	.20		T.	4.80
Burlington‖	Delaware					.30	1.45	.03			T.			.40	.37			.32	.17			*	.40		.13	.14	.03		.52	.24			4.59
Canton	Coast					*	*	2.10						*	*	.81		*	.31			*	.31		*	*	*	*	*	.81		T.	4.34
Cape May	do																																
Charlotteburg	Passaic					*	*	1.33						*	*	1.60		*	.52			*	1.57		*	.17			*	.75			5.94
Chatham‖	do				.04	*	*	1.95	.20		T.			*	*	1.45		*	.25	.30		.05	.85		*	*	.40	.05	*	.40	T.		5.94
Clayton	Coast					*	*	1.78			T.			*	*	.93		*	.28			*	.75		*	.30	T.		*	.42			4.46
College Farm	do			.03		.04	1.02	1.09			T.			*	2.20	.19		*	.69			.16	.45			.33	T.	.04	.01	.40	T.		6.65
Culvers Lake	Delaware			.05		.03	.25	.55			.03			*	.95	.35		*	.41			.37	.47		*	.36	T.	.13	*	.50	T.		4.45
Dover	Passaic			.05		*	*	1.53			.05			*	*	1.50		.05	.55			1.36			*	.40	*	.13	*	.53			6.15
Elizabeth	Coast					*	*	2.03			T.			*	*	1.40		*	.45			*	.65		*	.32	*	.16	*	.50	T.		5.51
Flemington	do			T.		*	.72	.89			.05			*	1.10	.10		*	.53			.46	.45		*	.29	T.	.05	*	.77		T.	5.41
Friesburg	do					*	.54	1.16						*	.73	.05		*	.26			.37	.12		*	.28	T.	T.	*	.55			4.06
Haddonfield	Delaware					.01	.85	.37						*	1.20	.04		.02	.36			.46	.18		*	.29	T.	.01	.40	.20			4.39
Hammonton	Coast					*	*	1.84			T.			*	*	.88		*	.25			*	.62		*	.30		T.	*	.41		T.	4.30
Hightstown	Delaware					*	*	1.69			.05				*	1.04		*	.48			.67				.29		.02	*	.50			4.74
Imlaystown	do					*	*	1.68			.06			*	*	.80		*	.36			.70			*	.22	T.		*	.53			4.36
Indian Mills	Coast					*	.80	1.12			T.			*	.80	.05		*	.29			.40	.15		*	.35		.03	*	.48			4.47
Jersey City	do			T.		.22	1.18	.70			.03			*	1.12	.33		.01	.48			.70	.12		T.	.34	.02	.02	.22	.50	T.		5.99
Lakewood	do																																
Lambertville	Delaware			.01		*	.75	1.07						*	1.37			*	.55			.70			*	.25	.01		*	.81			5.61
Layton	do					*	*	.52						*	1.20			*	.40			.34	.54		*	.20		.16	*	.30			5.66
Little Falls	Passaic			.04		.42	.98	.52			T.			.03	.78	.05		.09	.28			.95	.10		T.	.24	.02	T.	.28	.39	T.		5.17
Long Branch	Coast					*	.93	.88			T.			*	.50	.10		*	1.07			.51	.48			.24		.06	*	.55			5.32
Mahwah‖	Passaic																																
Moorestown	Delaware					.03	.65	1.05			T.			*	1.00	.04		*	.40			.24	.22		*	.25	T.	.02	*	.57	T.		4.47
Newark	Passaic					.40	.97	.47			.02			.05	.70	.42		.12	.34			.47	.13			.24	.02	.05	.10	.60	.02		5.12
New Brunswick	Coast																																
Newton	Delaware			.08		.37	.78				.01			*	1.15			*	.38			1.20			*	.39	.09		*	.57			5.02
Northfield	Coast					.03	.37	.77			.02			*	1.18	.02		*	.36			.35	.23		*	.35		.02	.01	.73			4.44
Oceanic	do					*	.82	1.02						*	*	1.25		*	.49			.34	.61			.54			*	.63			5.70
Paterson	Passaic			T.		*	.91	1.08			T.			*	.75	.27		*	.34			.32	.71		*	.18	T.	.02	*	.78	T.		5.36
Phillipsburg	Delaware			.05		.36	.51	.47			T.			.04	.98	.05		.11	.36			.81	.02		.12	.21	.04	T.	.26	.37	T.		4.76
Plainfield	Coast			T.		.02	1.01	1.18			.01			*	1.26	.10		*	.67			.37	.39		T.	.32	T.	.05	.02	.48	T.		5.88
Pleasantville	do																																
Pompton Plains‖	Passaic					*	.49	1.04			T.			*	.58	.80		*	.31	.10		.02	1.28		*	.06	.20	.05	*	.46	.12	T.	5.51
Rancocas	Delaware					.10	1.00	.84			T.			.30	.50	T.		.05	.32			*	.40		*	.25	T.	T.	.25	.25			4.26
Rivervale	Coast			.03		*	.40	.60						*	.60	.50		*	.18			*	1.60			.22	T.	.06	*	.69	T.		4.88
Runyon	do					*	*	1.95						*	1.25	T.		*	.53			*	.59			.27	.10		.22	.34	T.		5.25
Somerville	do			.03		.03	.77	1.10			T.			*	1.10	.10		*	.60			.40	.35		*	.28	T.	.05	*	.55			5.36
South Orange	do			T.		.20	.71	1.35			.03			*	.80	.10		*	.53			.70	.20		T	.23	T.	.02	.20	.57	T.		5.64
Sussex	Hudson			T.		*	.80	.70			T.			*	1.50			*	.05			.32	.58		*	.30		.20	*	.20	T.		4.65
Trenton	Delaware																																
Tuckerton	Coast					*	*	1.33						*	1.10	.10		*	.27			.44	.50		*	.35		.02	*	.72			4.83
Vineland	do					.03	.41	1.45			T.			*	.93	.18		*	.19			.43	.19		*	.31	*	.04	*	.23			4.29
Woodbine	do																																
West Virginia.																																	
Bayard	Potomac	.20	.14	.67	T.	.07	.52	.50	.10	.05	.20		.05	.43	.82	.10		T.	.77	.09		.53	.34	.05		T.	.05	.77	.16	.57	T.	T.	7.18
Burlington	do					*	1.10	T.						.60				.10	T.			.80					.10	.40	1.00		T.	4.10
Franklin	do						.20	.60						.30								.80	T.					.15	.60		T.	2.65
Harpers Ferry‖	do							.60						.22	.71				.32			.33	.85						.70			3.73
Lost City	do					T.	.62							1.02	T.				T.			1.49	.30				T.			1.20		T.	4.63
Martinsburg‖	do					.05	.55						.18	*	1.25			.05	.67			.56	.10		.15		T.			.45	T.		3.41
Moorefield	do			T.		.07	.15	1.00						.41	.20				.11			1.35	.30	T.	T.		T.		.30	.90			4.79
Romney‖	do						.30	.65			T.			.08	.62	T.		.03	.43	T.		.25	.91	T.				.10		.77			4.14
Upper Tract	do					T.	.10	.50					T.	2.00	.35				T.			.83	T.					T.	.10	.78			4.66
Maryland.																																	
Annapolis	Coast						.50								1.30				1.50			.80				.31			*	1.00			5.41
Bachmans Valley	do																																
Baltimore	do					.09	.63	.36					T.	.40	.75			.18	.30			.99	T.		.10	.05	T.		.57	.26	T.	T.	4.68
Cambridge	do						.79	.69						.09	.78	.08			.34	.29		.27	.11						*	.79		T.	4.23

TABLE 2.—*Daily precipitation for January, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maryland—Cont'd.																																	
Cheltenham	Coast					.08	.08	1.40							.80	.07			.40	.17		.58	.12				.05		.10	.75			4.60
Chester	do																																
Chestertown	do					.10	.35	1.31						T.	*	1.08			.30	.18		.36			T.	.30			.10	.30			4.38
Chewsville	Potomac			T.		.07	.54							.15	.40			T.	.46			.61	.22		.02				.06	.50			3.03
Clear Spring	do							.72							.95	.30			.10			.13	.90	T.		.10	T.	T.		.90		T.	4.10
Coleman	do																																
College Park	do																																
Cumberland	do					.15	.90							.25	.90	.03		.01	.10	.10		.40	.70				.05	.15	.45	T.		4.19
Darlington	Coast			T.		.25	T.	.99						T.	1.12	.04			.30	.13		.68	.44		T.	.15	T.	T.	T.	.94			5.04
Denton	do					T.	.71	.85							.75	T.			.16	.18		.22			T.	.14			T.	.51		T.	3.52
Easton	do						.67	.71						T.	.65	.04			.39			.47				.18				.50			3.61
Emmitsburg	Potomac					T.	.46	.06						.17	1.33	.12			.61			1.11	.08		.06	.05	T.	T.		1.27			5.32
Fallston	Coast					.08	.10	.93						.02	1.42	.10		T.	.35	.10		.68	.20		T.	.15	T.	T.	.10	.53		T.	4.76
Frederick	Potomac		T.	T.		.10	*	1.00		T.				*	*	1.13		.05	.48			.93	.28		.04		.01		.36	.47		T.	4.85
Frostburg	do			T.		.14	.40	.51		T.	.01			.51	.82	.03		.18	.58			.98	.18				.06	.22	.07	.50	.20	T.	5.39
Great Falls	do						.01	1.06							.75	.02			.36	.03			1.09	.63						.86			4.21
Green Spring Furnace	do					.11	*	.56						*	1.12			*	.20			.77	.18		.08		.05		.10	.50			3.67
Keedysville	do			T.		.03	.05	.55					T.	.27	.68	.06		.02	.41			1.18	.28		.06		.01		.12	.56	T.	T.	4.28
Lake Montebello	Coast		T.			*	.19	.88						*	1.01	.01		*	.45			.87	.04		*	.11	T.	T.	*	.64		T.	4.20
La Plata	do																																
Laurel	do					.15	1.00							.10	.40				.50	.05		1.05	.05			.12	T.		.20	.60			4.22
Monrovia	Potomac		T.			.08	.09	.59						.11	.56	.01		T.	.51	.04		.69	.38		T.	.09			.11	.47		T.	3.73
Pocomoke City	Coast						*	1.05							.73			*	.38			1.06	.04			.18			*	.72		.01	4.17
Porto Bello	do																																
Princess Anne	do					T.	.62	.49		T.				.08	.84			.12	.53	.21		.33	T.		.16	.12			.47	.18		.10	4.25
Rockville	Potomac					.13	.02	.85						.12	.70	T.		.02	.44	.01		.70	.30		T.	.02			.72	.02		T.	4.05
Salisbury	Coast					.02	.60	.62		.02					.77	.03			.35	.40		.69	.10						.28	.58		T.	4.37
Sanatorium	Potomac					T.	.21	.49						.33	1.08	.10		T.	.61	T.		1.93	.36		.07	T.	T.	T.	T.	.63	T.		5.81
Solomons	Coast					.15	.58	.65						T.	.60	T.		.07	.31	.05		.14	.01		.12	.C6	T.		.27	.33	T.	.15	3.49
Sudlersville	do			T.		*	.50	1.20						T.	1.23	.05			.30	.17		.37	.03			.20	T.	.02	.03	.70			4.80
Takoma Park	do																																
Taneytown	Potomac					.03	.01	.60						.02	1.10	.07			.43			*	.75		.01	.02			.04	.60			3.68
Towson	Coast					.07	.10	.89						.05	.68	.05			.37		.07	1.25	.05		T.	.18			*	.87			5.63
Van Bibber	do																																
Westernport	Potomac			.41		.04	.36	.18		.02				.85	.05			.02	.36			1.08	.20			.04		.30	.80			4.71
Woodstock	Coast					.06	.06	.83						.08	.82	T.			.26	.01		.52	.01		T.	.07			.07	.66			3.45
Delaware.																																	
Delaware City	Coast					T.	T.								.15	.05			.23	.19		.22	.24		T.	T.	T.	T.	T.	.32			1.40
Dover	do					*	2.48								.92				.11			.52				.13			.66	.10		.10	5.02
Milford	do					T.	.54	1.11							.95	.05			.24	.31		.48	.21			.21	.02		T.	.77			4.89
Millsboro	do					.19	.50	.48							.85	.C2			.26	.30		.50	.25		.05	.40			.43	.40		.05	4.68
Seaford	do					.04	.09	.80							.82	.02			.32	.20		.62	.15				T.		.06	.64		T.	4.36
District of Columbia.																																	
Washington	Coast					.12	.56	.39					T.	.07	.73			.32	.17			.80	.01		.15	.03	T.		.09	.35		T.	4.39
Virginia.																																	
Culpeper	Rappahannock					T.	*	1.15						*	.34			.21	*	.08		1.05	.44			.05			*	.85		.01	4.18
Dale Enterprise	Shenandoah					.02	.01	.45					.08	.08	.25			T.	.05			1.12	.02		T.		.07		.40	.30		.30	3.15
Doswell	Coast																																
Eastville	do					T.	.18			.25					.35			T.	.22	.41		.47				.07			.13	.50		.05	2.63
Fredericksburg	Rappahannock					.11	.10	.98						T.	.22			.01	.27	.07		.75	.10		.03	.24	T.		.35	.57		.03	3.83
Lincoln	Potomac					T.	.80						.23	.40	.84			.42				1.0C	.22		T.					.80		T.	4.71
Mount Weather	do		T.			.07	.44	.28		T.			.24	.65	.38			.22	.18			.90	.29		.03		T.	T.	.48	.32		.05	4.53
Nokesville	do					T.		1.28						.20					.52			.40	.20			T.	T.		.10	.50		T.	3.20
Quantico	do					*	.07	.15					.01	.04					1.90			.76			.16	T.			.23	.90		T.	4.22
Shenandoah	Shenandoah							.85					T.	.06	.41			T.	.09			1.07	.21				T.		.17	.50		.05	3.41
Staunton	do		T.			T.	.80	T.					.05	.21	T.			T.	.07		T.	1.06	.16		T.		.05		.90			.18	3.48
Stephens City	Potomac						.14	.41							.40	.40	.94		.16	.02		.86	.25							.61			4.19
Warsaw	Rappahannock						1.00	.52		T.					.53				.32	.35		.48	.07		.05	.21	.05		.32			.04	3.94
Woodstock	Shenandoah					T.	.07	.47					T.	.30	.75			.06	.05			1.32	.19				.06		.09	.41		T.	3.77

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Presque Isle.		Portland.		Rumford Falls.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1...	37	11	24	0	28	0	.....	.....	34	8	22	− 4	36	− 8	34	− 7	38	16	33	− 3	37	24	39	10	27	7	36	6
2...	41	23	37	15	42	2	.....	.....	49	31	42	20	47	29	44	30	45	36	43	30	43	34	45	35	36	27	46	36
3...	23	14	20	8	39	15	.....	.....	31	24	24	20	29	22	33	23	36	27	40	27	34	30	35	28	35	30	38	28
4...	20	−10	13	−18	19	− 9	.....	.....	25	− 4	14	−10	23	− 8	23	− 7	27	− 3	30	3	34	10	28	− 2	30	− 9	28	− 2
5...	31	−10	3	−18	5	−17	.....	.....	15	− 4	10	−11	10	−10	14	− 9	27	− 3	27	− 5	40	15	40	− 5	14	−11	21	− 6
6...	40	31	35	0	34	3	.....	.....	36	15	32	10	33	10	36	14	47	23	46	27	49	40	47	40	36	14	40	21
7...	33	17	28	16	33	23	.....	.....	34	20	30	18	34	21	34	20	41	25	46	31	50	29	41	24	37	20	36	24
8...	26	13	22	− 1	27	− 1	.....	.....	28	15	24	− 1	27	8	29	12	32	21	31	13	33	24	32	19	32	10	30	18
9...	34	22	25	6	29	2	.....	.....	34	17	21	1	30	8	35	14	32	24	31	9	37	24	31	18	28	15	34	16
10...	31	12	14	2	28	7	.....	.....	26	17	26	− 1	30	10	29	13	33	20	30	21	33	25	32	19	24	11	29	16
11...	21	8	15	0	21	− 7	.....	.....	28	10	22	8	25	11	30	8	32	15	29	4	27	20	30	13	26	5	28	12
12...	24	14	22	10	30	3	.....	.....	29	15	30	8	31	11	27	8	34	21	32	9	30	21	31	19	27	10	30	18
13...	26	9	22	4	30	− 7	.....	.....	33	14	27	12	32	7	31	6	34	23	36	4	35	26	33	19	31	15	31	15
14...	22	2	7	−11	29	−12	.....	.....	16	9	14	0	20	10	25	12	30	16	31	14	32	29	30	15	27	16	24	14
15...	22	11	21	−14	16	− 3	.....	.....	28	11	31	3	31	12	30	17	31	15	28	19	33	29	32	15	24	14	30	14
16...	36	15	33	1	37	−13	.....	.....	45	23	37	12	44	14	40	4	46	23	41	− 7	34	29	45	22	34	8	34	10
17...	32	18	32	18	38	− 1	.....	.....	30	21	30	10	33	5	36	− 4	37	24	46	− 5	38	25	42	17	43	14	33	5
18...	46	30	39	14	41	2	.....	.....	42	26	35	12	44	30	43	19	49	31	48	16	47	34	50	32	45	22	47	24
19...	46	29	40	24	44	35	.....	.....	43	29	41	27	42	30	43	29	47	32	48	31	47	32	47	30	37	24	45	31
20...	35	22	29	13	38	16	.....	.....	35	24	34	33	41	20	42	20	46	28	43	17	40	29	43	26	43	17	45	25
21...	47	30	36	15	46	22	.....	.....	46	32	46	12	45	24	51	26	53	35	47	35	47	36	53	32	49	32	55	28
22...	53	40	47	35	53	38	.....	.....	48	37	51	37	50	34	56	34	57	38	55	37	50	39	56	36	44	32	55	35
23...	41	36	44	28	52	30	.....	.....	40	30	38	28	46	28	40	30	44	33	40	33	42	35	42	32	37	24	41	30
24...	39	34	37	16	40	23	.....	.....	38	28	36	23	39	23	39	24	42	31	49	20	48	33	46	27	38	25	39	28
25...	38	33	35	27	38	26	.....	.....	40	33	39	32	40	34	34	32	40	34	41	28	38	34	38	32	33	27	36	34
26...	36	32	31	25	39	32	.....	.....	42	32	36	22	40	25	42	28	44	35	43	33	40	32	42	32	37	24	42	27
27...	37	33	29	24	38	28	.....	.....	36	28	36	17	35	25	37	30	38	32	43	22	45	32	40	31	36	28	38	31
28...	38	32	32	22	40	30	.....	.....	42	33	38	31	37	29	36	28	40	34	41	31	41	36	39	32	38	24	38	29
29...	48	29	29	18	39	27	.....	.....	33	30	34	28	34	26	36	27	40	30	44	32	50	33	43	27	33	27	36	23
30...	40	25	34	12	40	15	.....	.....	33	26	28	23	33	24	34	24	36	28	42	27	36	31	36	27	31	22	34	26
31...	28	22	22	− 1	28	16	.....	.....	27	23	30	14	32	24	32	26	33	29	35	26	43	34	33	28	38	26	35	29
Mns	34.5	20.9	27.6	9.4	34.2	10.5	.....	.....	34.4	21.1	30.9	13.7	34.4	17.0	35.3	17.1	39.1	24.9	39.3	18.7	39.8	29.2	39.4	23.4	33.9	17.7	36.5	20.8

Date.	New Haven, Conn.		New York.												Pennsylvania.												Asbury Park, N. J.	
			Addison.		Albany.		Binghamton.		Cooperstown.		Indian Lake.		New York.		Clearfield.		Everett.		Harrisburg.		Philadelphia.		Scranton.		Wellsboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	38	16	35	3	34	0	38	10	36	8	25	−17	37	17	31	1	35	2	32	11	37	15	34	9	31	5	38	14
2...	48	36	44	33	43	31	41	29	36	30	30	25	46	37	40	30	55	33	45	32	49	37	47	31	46	28	47	35
3...	36	28	34	25	32	20	33	14	30	20	30	13	39	31	35	27	54	32	44	29	46	34	38	20	39	26	45	36
4...	28	− 1	25	3	21	− 7	14	− 2	20	−13	24	−20	31	5	28	5	34	9	29	13	34	11	20	− 1	30	2	40	12
5...	27	− 3	31	0	34	− 8	38	− 3	34	−14	10	−33	36	5	29	12	28	13	27	10	29	9	37	− 1	22	2	28	10
6...	39	27	35	24	35	30	38	22	34	23	35	8	39	33	34	29	53	22	33	27	40	29	38	30	34	21	45	26
7...	39	25	28	18	30	19	24	13	23	18	29	15	39	25	32	15	34	18	34	19	39	24	30	17	27	16	40	30
8...	30	19	29	−10	24	15	24	1	18	3	20	− 8	28	19	38	−10	33	10	28	15	30	19	26	10	28	−10	30	16
9...	33	17	37	11	29	16	33	21	26	11	27	− 6	32	24	30	1	38	14	34	18	37	21	32	19	33	5	32	18
10...	29	16	27	5	24	7	22	− 2	20	9	25	9	30	17	30	6	23	15	25	17	30	23	24	11	28	11	30	17
11...	32	13	34	− 6	24	5	25	− 2	18	− 1	26	−11	31	16	30	−10	35	6	31	16	33	22	30	8	31	− 8	30	14
12...	32	21	35	21	25	10	28	10	28	10	27	0	35	27	40	23	42	29	36	30	39	28	35	19	36	24	38	23
13...	34	19	31	18	27	12	26	14	26	15	28	− 1	38	28	37	29	39	27	35	28	38	29	32	18	32	15	38	28
14...	28	16	26	23	22	15	27	18	18	15	24	9	33	22	36	27	30	27	30	24	34	24	26	20	28	10	34	30
15...	32	17	27	11	20	5	21	− 1	18	3	31	−10	32	22	34	22	35	18	31	24	34	25	25	13	26	13	32	22
16...	42	22	31	−16	26	− 4	24	− 3	22	− 3	40	−20	35	18	30	18	38	− 1	34	11	39	24	25	6	31	−19	35	13
17...	36	14	36	− 7	26	− 2	34	− 7	22	− 8	35	−13	39	22	37	10	35	12	32	9	39	24	38	5	38	− 6	36	18
18...	48	36	44	30	44	21	46	30	40	22	40	20	51	36	40	20	47	31	45	30	51	36	46	31	43	28	44	35
19...	44	30	38	23	43	30	38	17	38	20	39	22	41	32	40	28	41	30	40	30	44	35	38	25	39	27	50	35
20...	42	26	42	7	42	22	47	11	42	15	40	19	46	30	45	15	53	17	41	24	45	31	48	20	43	10	45	25
21...	50	33	44	32	51	37	49	41	47	32	45	21	51	40	40	28	43	29	47	38	55	40	50	40	46	26	46	36
22...	51	35	45	24	52	32	50	27	45	26	46	32	51	35	36	21	38	23	43	28	51	33	50	28	45	21	46	36
23...	41	31	34	21	38	31	35	25	32	24	35	22	40	32	38	19	40	20	39	27	42	30	38	26	35	20	39	28
24...	42	28	40	32	40	31	35	30	36	26	33	18	45	32	36	26	37	27	33	30	44	33	36	29	40	28	42	28
25...	37	31	35	25	34	25	32	22	30	20	32	15	40	29	36	23	36	25	36	28	40	30	33	22	36	24	40	33
26...	39	27	36	30	31	23	35	13	29	4	35	− 8	36	24	34	7	33	13	31	21	35	26	36	16	32	12	37	22
27...	40	33	39	29	38	29	37	30	36	29	34	20	41	33	34	19	39	25	42	28	46	34	38	30	34	25	44	32
28...	39	32	34	26	39	30	35	29	32	26	33	21	40	32	34	30	36	30	38	31	43	32	39	30	34	25	41	32
29...	43	27	32	23	30	23	31	22	26	22	27	15	42	28	33	24	31	24	33	26	36	29	30	23	33	23	42	30
30...	36	26	34	16	35	25	31	23	26	18	25	16	39	26	30	6	38	20	37	23	39	25	36	23	30	20	40	22
31...	39	30	29	20	28	18	33	24	25	21	27	13	39	30	32	23	29	25	35	29	41	33	35	27	31	25	41	31
Mns	37.9	23.3	34.5	15.9	32.9	17.5	33.0	15.4	29.5	13.9	30.9	6.3	38.8	26.0	34.8	16.9	38.1	20.2	35.5	23.4	40.0	27.3	35.2	19.5	34.2	14.5	39.2	25.4

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 1*—Continued.

Date.	New Jersey.								Martinsburg, W. Va.		Maryland.								Washington, D. C.		Millsboro, Del.		Virginia.					
	Atlantic City.		Hightstown.		Newton.		Phillipsburg.				Baltimore.		Darlington.		Frederick.		Westernport.						Culpeper.		Fredericksburg		Staunton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	40	21	34	6	30	3	33	3	40	13	36	17	32	6	33	7	35	11	40	11	43	6	37	7	42	10	51	19
2...	49	38	44	28	51	26	49	31	44	15	52	36	50	27	44	33	55	34	53	40	51	31	50	34	66	37	63	42
3...	47	34	40	30	43	27	39	28	34	39	49	37	45	27	53	36	57	35	55	37	65	35	67	34	70	52	66	50
4...	34	12	36	12	36	4	28	5	24	15	37	14	41	14	37	16	36	12	37	17	39	15	55	20	57	21	50	24
5...	41	13	16	5	7	− 5	26	0	29	15	28	13	31	7	23	14	28	18	26	16	41	14	25	19	25	19	44	18
6...	47	32	36	16	33	6	34	25	37	17	39	28	35	17	35	23	33	26	40	26	58	26	43	23	50	19	57	20
7...	46	23	40	29	33	23	35	19	28	27	38	23	35	25	38	25	35	16	37	21	53	27	37	30	46	32	35	29
8...	31	17	32	13	28	9	28	12	31	13	30	20	28	11	36	16	33	11	34	16	36	16	32	13	34	12	35	14
9...	33	21	37	9	37	9	33	11	40	13	38	21	34	16	38	17	39	14	40	16	36	17	36	16	41	15	44	17
10...	29	18	32	20	28	16	27	15	27	16	30	22	30	17	37	20	30	16	29	18	30	20	33	18	34	20	34	13
11...	34	15	33	8	33	6	30	13	32	11	36	20	32	10	34	13	44	9	34	14	37	11	37	11	40	10	42	14
12...	36	28	36	20	35	15	35	23	40	11	40	31	36	25	42	30	44	32	40	30	48	21	43	20	41	20	42	28
13...	37	29	36	30	35	14	34	20	33	25	38	32	34	30	40	30	37	30	37	32	41	31	38	30	40	32	35	32
14...	40	24	34	27	28	17	31	19	30	29	36	26	33	29	32	26	32	29	35	28	43	33	33	30	35	31	35	30
15...	33	23	34	20	30	15	34	18	36	22	35	24	30	21	36	16	34	28	37	24	35	24	37	26	40	25	41	26
16...	42	19	37	2	36	− 1	38	5	33	6	42	25	37	19	29	− 1	39	6	43	23	45	19	42	16	47	18	48	18
17...	40	24	38	3	29	− 2	32	3	35	7	37	23	35	10	32	6	34	17	42	23	42	20	41	24	45	23	45	20
18...	47	37	50	35	44	21	46	29	49	21	58	36	49	34	46	30	48	32	58	39	58	30	57	32	62	39	54	30
19...	42	33	48	35	43	29	39	24	41	33	44	36	45	28	42	32	43	31	44	30	43	28	54	29	54	28	49	31
20...	41	32	44	22	45	14	42	17	48	24	48	32	42	22	48	30	57	22	54	28	57	26	55	25	57	24	58	31
21...	46	39	52	32	48	30	50	33	49	25	53	42	50	36	52	36	44	35	55	40	54	34	52	37	55	42	46	34
22...	45	36	52	36	46	31	48	31	33	29	46	31	50	31	39	29	35	25	41	30	43	33	43	28	53	30	34	24
23...	37	32	43	28	38	24	41	27	39	23	39	28	40	23	39	23	40	23	42	27	45	28	40	21	46	25	41	22
24...	44	35	44	25	38	22	37	26	34	25	40	33	37	28	37	27	38	25	43	32	49	28	42	33	45	33	45	26
25...	39	30	41	32	34	27	37	23	35	27	39	30	55	27	38	26	38	26	37	28	41	30	37	28	42	29	41	25
26...	40	23	36	20	34	9	33	16	43	20	36	24	32	18	37	34	32	12	38	25	39	22	36	20	39	20	49	22
27...	45	36	44	27	38	25	39	27	46	23	46	33	42	28	46	27	44	26	46	31	47	34	50	30	56	33	50	31
28...	42	32	41	30	39	29	39	31	39	32	41	33	40	30	40	32	37	32	40	32	41	28	42	27	48	25	34	27
29...	44	29	40	29	35	23	33	25	34	30	36	29	33	30	33	27	33	26	35	30	39	30	37	30	38	32	30	28
30...	42	27	40	20	36	18	40	20	40	26	41	27	39	17	39	24	38	16	43	26	43	22	40	13	50	23	44	22
31...	42	33	41	25	40	13	41	20	34	26	38	33	37	25	39	28	39	25	37	28	47	31	35	20	48	27	36	28
Mns	40.5	27.3	39.1	21.2	36.2	16.0	36.5	19.3	37.3	21.2	40.2	27.7	37.7	22.1	38.5	23.8	39.1	22.6	41.0	26.4	44.8	24.8	42.5	24.0	46.6	26.0	44.5	25.6

Climatological Data for January, 1910.

DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

January, the midwinter month, is usually characterized by very unsettled weather, with the lowest temperatures for the year, and the normal conditions as to temperature and rainfall are of special interest at this season of the year. The mean in the district is lowest in Virginia where the State normal is slightly above 35°, and it rises toward the southwest to a normal of about 48° in southeastern Mississippi. Thus the temperature on the average is above freezing throughout the district even in midwinter. The normal temperature for January in North Carolina is 41°, in South Carolina, Georgia, and Alabama it is 46°, while in Florida there is a marked rise to a mean of 56°, the milder temperature in that State being due to the ameliorating influence of the waters of the Gulf of Mexico and the Atlantic Ocean. The precipitation in winter is very uniformly distributed. The average rainfall is about 3 inches or slightly above in all the States from Virginia to Florida, inclusive, but increases to over 4 inches in Alabama and Mississippi. The snowfall throughout the region is usually small and snow rarely remains long unmelted on the ground.

The departures from the normal conditions were not very pronounced during January, 1910. The temperature was about normal from Florida north to South Carolina, and slightly in excess elsewhere in the district. The rainfall was below the normal in all sections except in Virginia.

Among the few special features of interest may be mentioned the high atmospheric pressure on some dates and the occasional rapid and marked changes in temperature. The atmospheric pressure reduced to sea-level rose above 30.70 inches in the northeast portion on January 8 and again on January 11, when the area enclosed by the isobaric line of 30.70 inches included all the States from Georgia to Virginia. The maximum pressure for the district was 30.77 inches on the 11th at Richmond, Va., and at Wilmington, N. C. The highest at Atlanta, 30.71 inches, has been exceeded only once before (30.77 inches in January, 1899), but the monthly range, 1.25 inch, is the greatest on record in 31 years.

As an illustration of the rapid fluctuations of temperature the changes from the 6th to the 7th during the advent of the only severe cold wave for the month may be noted. At Montgomery Ala., at 1 p. m. (central time), of January 6, the temperature was 72°; the next morning at 7 a. m. it was 20°, a fall of 52° in about 19 hours. At Atlanta the temperature fell from 63° at 2 p. m. to 23° at midnight of the same day, a fall of 40° in 10 hours. Similar changes occurred throughout most of Alabama and Georgia and the western portions of the northern States in the district.

Two storms of considerable force passed northeastward over the Gulf and South Atlantic States during the month. The first appeared as a slight barometric depression near the southern extremity of Texas on the morning of January 5, whence it passed northeastward to southern Alabama by the morning of the 6th, with a pressure of about 29.85 inches. It was accompanied by general rains, and was followed by the only severe cold wave that occurred during the month. The second severe storm for the month appeared over central Texas on January 27, with a pressure of 29.82 inches at Abilene. By the morning of the 28th this disturbance had moved eastward to central Georgia, with greatly increased force, the pressure falling to 29.45 inches at Macon, Ga. Heavy rains accompanied the depression; severe local storms, with nearly the force of tornadoes, occurred in its southeast quadrant, with considerable damage to property in several counties in southern Georgia, northern Florida, and in South Carolina. The main storm then moved to the northeast and was central off the coast of Delaware on the 29th, with the pressure below 29.20 inches. The lowest atmospheric pressure was registered at nearly all stations on the afternoon of January 28, the minimum being 29.29 inches at Columbia, S. C.

Two minor areas of low pressure passed across the northern portion of the district on January 14 and 31; the latter was accompanied by a snowstorm covering a very extended area, with measurable amounts of snow as far south as Savannah, Ga., and traces all over Alabama and Georgia and even into northern Florida.

Generally speaking, however, January was not a severe winter month; the most interesting feature is the fact that it was warmer than December, 1909, in all the States in the district. However, excepting the unusual warmth during the first few days of the month, the temperature ranged uniformly low and the early growth of vegetation was not stimulated. The amount of sunshine was slightly above normal in the district and the rainfall was sufficient for agricultural needs.

TEMPERATURE.

The departures from the normal temperature were generally small during January. The greatest excess of from 2° to 4° occurred in central North Carolina, between Chapel Hill and Reidsville, and in Mississippi. The monthly mean temperatures ranged from 67.7° at Key West, Fla., to 31.5° at Hot Springs, Va. In the southern portions of Mississippi, Alabama, and Georgia the monthly means were generally above 50°, in the northern portions of these States from 37° to 45°; in Florida the lowest monthly mean was 50°; in other States the means ranged from 32° to 49°.

The warmest weather for the month occurred everywhere during the first week, the maximum temperatures being registered on the 3d from Georgia north to Virginia, and on the 4th to 6th in the Gulf States. The maximum temperature reached or slightly exceeded 80° in all States except Virginia and Alabama, with the highest 85° at Orange City, Fla., on the 6th, and 84° on the same date at St. Marys, Ga., and Waynesboro, Ala. A marked decline in temperature occurred in the north on the 4th, and a cold wave that spread over the district on the 7th ushered in a long period of cold weather, with temperatures frequently below freezing to the Gulf and Atlantic coasts, and killing frosts over most of Florida. The lowest temperature was 7° on the 7th at Riverton, Ala. The minimum in Virginia was 9° on the 8th at Hot Springs; in North Carolina, 10° on the 11th at Saxon and Mt. Airy; and in Mississippi, 10° on the 7th at Boonville. In Virginia ice thick enough to cut formed in ponds and streams during the cold weather from the 4th to the 12th, and farmers secured a good supply.

PRECIPITATION.

The month was relatively dry in all sections, except portions of Virginia, but the deficiencies were large only in portions of Florida and Mississippi. In Florida the average deficiency was 1.63 inch, and in Mississippi it was 1.30 inch. There was an average excess of half an inch in southern Virginia. The monthly amounts ranged from less than 1 inch in Florida to over 5 inches at a few places in Mississippi, North Carolina, and Virginia, the largest monthly total being 6.45 inches at Collaville, Va. In all States except Florida there were limited regions in which the precipitation ranged from 2 to 4 inches, the largest lying in central northern Georgia. In North Carolina the maximum amount was 5.30 inches at Salem; in Mississippi, 5.29 inches at Boonville. The rainfall in Florida was consider-

ably less than 1 inch at many stations, the minimum being 0.12 inch at Hilliard; St. Georges, Valona, and Brunswick, neighboring stations in Georgia, also received less than 1 inch. Outside of Florida, however, the rainfall was pretty uniformly distributed. The number of days with rain was somewhat less than the normal in all sections, except North Carolina and Virginia.

The most general rains occurred from the 5th to 7th, 18th to 24th, and on the 28th and 29th, and were associated with well-defined barometric depressions, but local rains were frequent on intermediate dates, especially during the last decade. The only stations in the district that reported amounts exceeding 2.50 inches in 24 hours were: Ashville, Ala., 2.53 inches on the 6th, and Butler, Ga., 2.54 inches on the 27–28th.

The snowfall for the month was small, except in Virginia, where the average depth unmelted was 4.6 inches; the largest monthly amount was 14 inches at Charlottsville, Va., and the greatest 24-hourly fall, 10 inches on the 28th at Collaville, Va. The maximum amount in North Carolina was 7.5 inches at Reidsville; in Georgia, 3.2 inches at Toccoa; and in Alabama, 2.5 inches at Gadsden.

RIVER CONDITIONS.

All streams in the district were very low at the beginning of January, but higher stages occurred in most of the rivers toward the close of the month as a result of the general rains during the last decade. No dangerous rises were reported nor was the flood stage passed at any important point. A rise of 10 feet in 24 hours took place in the Roanoke River at Weldon, N. C., on January 23, with a maximum stage next morning of 23.7 feet (flood stage 30 feet). The rather heavy rains of the 28th in central Georgia, averaging about 1.50 inch over the upper basins of the Ocmulgee and Oconee rivers, caused a moderate rise to 14 feet at Macon and to 16 feet at Milledgeville, Ga., on January 29, for which advisory warnings were issued by the official in charge at Macon. The highest stages generally occurred so late in the month that the averages for the month remained very low.

MISCELLANEOUS PHENOMENA.

Severe local thunderstorms were associated with the depression central in Georgia on the morning of January 28, occurring mainly in southern Georgia and northern Florida. A brief storm burst over the city of Jacksonville at 11 a. m. of the 28th, with high winds from the southwest reaching a maximum velocity of 54 miles an hour. Many telegraph and telephone poles were blown down as well as a number of trees in various parts of the city. One large building was unroofed. Similar storms occurred at Live Oak, Fla., and at Cordele, Ga., with considerable damage to property. At Two Mile Swamp, near Orangeburg, S. C., a severe wind storm occurred at 11:30 a. m. A school house full of children was blown down and four persons were injured. It was a straight blow from west to east with a path of destruction about 120 feet wide, and all prostrated trees pointed due east. At Columbia, S. C., the wind attained a velocity of 55 miles for one minute at 11:28 a. m. on the same date, that is to say, about 2 minutes earlier than at Orangeburg.

The prevailing winds for the month were from the southwest in Virginia and North Carolina, from the west in South Carolina and Georgia, and from northerly directions in other States in the district. The following wind velocities exceeding 40 miles an hour were reported: Raleigh, N. C., 42 miles west on the 7th; Hatteras, N. C., 59 miles south, 29th; Columbia, S. C., 42 miles southwest, 18th; Savannah, Ga., 42 miles west, 21st; Jacksonville, 54 miles southwest, 28th; Key West, 42 miles southwest, 28th; Jupiter, 44 miles west, 21st; and Pensacola, 44 miles northwest, 21st. The number of clear days averaged about 15 throughout the district, except in Virginia where more cloudy weather was experienced. Dense fog prevailed on many mornings, covering the greatest area on the 4th, 5th, and 6th, and again on the 25th and 26th.

EFFECTS OF LOW TEMPERATURES ON CITRUS TREES AND FRUITS.

By A. J. MITCHELL, Section Director, Jacksonville, Fla.

In studying the effects of freezing temperatures on citrus trees and on fruits it is important to take into consideration the character of the weather preceding the freeze, whether the temperature has been above or below normal and how long, the amount of precipitation, and the number of rainy days. Even the fertility of the soil in which the trees are growing has some influence. Other important factors are the physical condition of the trees as indicated by their stage of growth and the location of the groves with reference to large bodies of water. Trees of inferior vigor or infested with white fly have powers of resistence on a par with a man suffering from general debility. Trees laden with fruit are less able to resist low temperatures than those free from such burden. Tender early growth is more liable to injury than older wood of the tree.

The ameliorating influence of large neighboring bodies of water is very marked. Orange groves located on the east and south sides of large lakes or rivers are safer from damage by frost than those located at distances from water even a hundred miles farther south; in other words, for small distances the proximity of water is a greater protective factor than the higher temperature resulting from the lower latitude.

The cold wave of December 30 and 31, 1909, which was severe in northern and central Florida, causing much damage to orange groves and considerable loss of fruit, gave occasion to investigate more fully the ability of orange fruit and trees to withstand temperatures below freezing, and a number of questions on this topic were submitted to experts in the citrus industry, the replies to which appear below.

1. How long can orange trees or fruit endure temperatures between 32° and 25° without serious damage?

With dry and moderately cold weather for a month or more before the cold wave, well nourished and matured trees will not be injured by a temperature as low as 25° for three or four nights—some growers say indefinitely—provided the cold nights are followed by day temperatures of about 45° to 50°. On the other hand, if warm rainy weather has preceded the cold wave, a temperature of 25° for a few nights will kill tender growth and injure young trees. Under normal conditions a temperature of 25° need not cause serious apprehension.

In regard to the possible injury to fruit, it may be stated that a gradual fall from 32° to 25° will cause considerable damage in from 4 to 6 hours, the extent depending on the length of time freezing conditions prevail before the temperature of 25° is reached. If the fall in temperature be sudden the damage will be less than if it begins to freeze before midnight.

2. How long can trees or fruit withstand temperatures between 25° and 20°?

If the fall months have been dry and cool no serious injury will result from exposure to such low temperature for only 4 to 6 hours, except the loss of foliage, though immature young trees may be killed to the "bank." Trees are banked by heaping dirt or sand around the base of the tree above the point where budded as a protection against severe freezes. Temperatures of 20°, or slightly below, for 5 or 6 hours usually defoliate trees and cause injury of a serious character. Some young trees will be killed.

During a rapid fall of temperature to 25° or slightly lower taking place after midnight, fruit protected by heavy foliage may escape but the marketable qualities of the fruit will be much impaired should the low temperature continue for 1 or 2 hours. It may be stated that a temperature of 28° 5 feet from

the ground is the alarm signal for orange growers and the work of "firing" groves begins at once.

Lower temperatures than 20° are disastrous both to fruit and trees. In December, 1894, when the temperature fell to 14° at Jacksonville, citrus trees in the northern and central portions of the State lost their foliage and the fruit was destroyed. In the following February a temperature of 14° again occurred at Jacksonville, and from 17° to 25° over most of the citrus belt, and as the trees were bare their destruction was inevitable. The cold wave of February, 1899, during which the temperature at Jacksonville fell to 10°, was also disastrous.

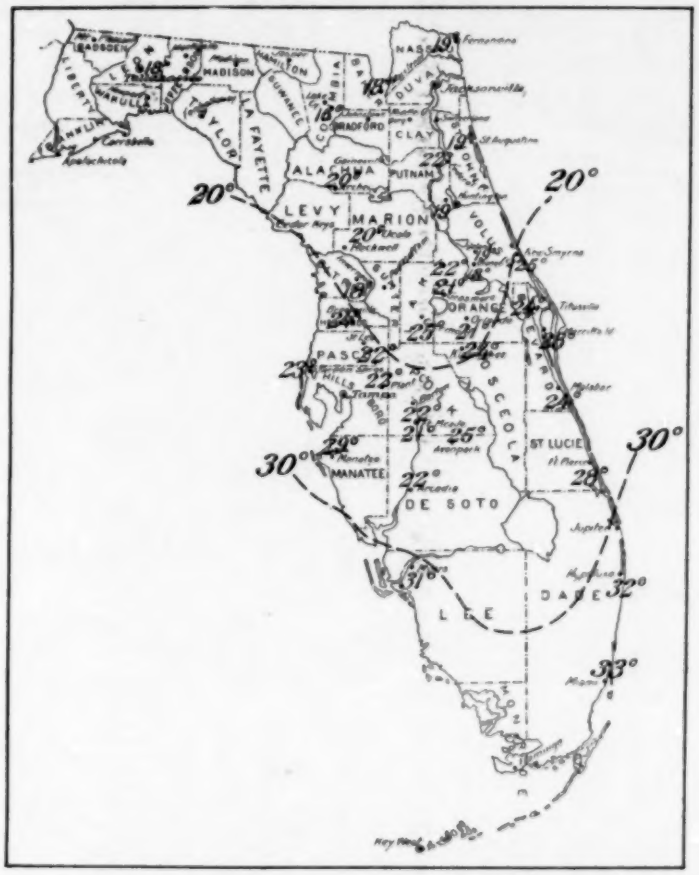


FIG. 1.—Showing the lowest temperatures recorded in Florida during the cold weather of December 30–31, 1909.

The chart (fig. 1) shows the minimum temperatures that occurred during the cold wave of December 30–31, 1909. It will be noted that the line of 20° extends to about parallel 28° 30′, and the 30° line to about parallel 25°. Under the influence of these temperatures it is safe to assert that 90 per cent of the groves in the interior south to the 26th parallel, where they did not enjoy unusual immunity as a consequence of water protection, or where they were not protected by fires, showed ice and consequent damage.

Attention is invited to the following description of an experiment made by Civil Engineer Frank Merriwether, at Winter Park, Fla., during the freeze of December, 1909, to determine the temperature at which oranges will freeze:

Mr. Merriwether sat up the entire night of the 29-30th of December to watch an interesting experiment that he was making in his orange grove. Through a small hole made in the rind of an orange hanging upon a tree, he pushed the cylindrical bulb of a thermometer into the pulp, the rind fitting closely around the stem of the instrument and recorded the reading at specified times as follows: 9:00, 43°; 10:00, 40°; 11:00, 37°; 12:00, 35°.

At midnight he suspended another thermometer, whose readings and those of the one partly within the orange are identical when subjected to like conditions, near the orange, in order to get the temperature of the atmosphere and the following readings were made:

Temperatures at Winter Park, Fla., December 29–30, 1909.

	Midnight.	12:30 a. m.	1:00 a. m.	1:30 a. m.	2:00 a. m.	2:30 a. m.	3:00 a. m.	3:30 a. m.	4:00 a. m.	4:30 a. m.	5:00 a. m.
Immersed bulb....	35	33	33	32	31	30	29	29	28	28	27
Free bulb...	32	31	30	29	29	28	27	27	26	26	25

	5:30 a. m.	6:00 a. m.	6:30 a. m.	7:00 a. m.	7:30 a. m.	8:00 a. m.	8:30 a. m.	9:00 a. m.	10:00 a. m.	11:00 a. m.	Noon.
Immersed bulb... .	26	30	30	30	30	30	30	30	30	32	40
Free bulb.....	24	23	23	24	25	27	30	32	35	35	40

It will be seen that the orange must have begun to freeze at 5:30 a. m. when the mercury in the thermometer with the immersed bulb stood at 26°, and that in the other at 24°, because after that time the mercury in the immersed bulb instrument rose several degrees, this being due to the heat given off in the freezing of the orange.

Two very interesting facts are, therefore, obvious from these results: first, that a temperature of 26° is necessary to freeze an orange under ordinary conditions; and, second, when the temperature is falling at the rate of 1½° an hour, about 5½ hours (from 12 to 5:30 in this case) are required for oranges to reach the temperature required to freeze them.

At the usual rate of fall of the temperature during cold waves the danger point to citrus fruits is generally reached in about 5 or 6 hours after the air temperature has reached the freezing point. Often, however, owing to diminished wind movement and strong outward radiation, the most serious injury to citrus fruits occurs on the second night of the cold wave.

TABLE 1.—*Climatological data for January, 1910. District No. 2, South Atlantic and east Gulf States.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	6	36.9	.....	69	3	12	11	39	4.86	.....	1.06	12.0	15	14	5	12	sw.	Rev. Plummer F. Jones.
Ashland‡	Hanover	°21	19	37.0	+ 1.2	69	3	15	1	42	1.79	− 0.82	0.57	2.5	11	9	12	10	s.	E. L. C. Scott.
Buchanan	Botetourt	°20	6	.....	.....	.....	.....	.....	.....	.....	3.66	.....	1.14	10.5	8	7	3	21	w.	D. D. Boose.
Callaville	Brunswick	250	16	38.4	+ 0.2	70	3	13	11	35	6.45	+ 3.40	2.02	1.5	13	11	12	8	sw.	F. M. Gage.
Cape Henry	Princess Anne	20	36	40.7	+ 0.5	70	3	24	4	38	2.61	− 0.74	0.64	2.0	13	9	7	15	nw.	U. S. Weather Bureau.
Catawba	Roanoke	1,760	...	35.9	.....	65	2	13	8	35	.....	.....	1.00	10.0	...	3	11	17	.....	State Sanitarium.
Charlottsville	Albemarle	800	21	36.0	+ 0.5	71	3	15	8	29	4.73	+ 1.50	1.48	14.0	12	8	5	18	nw.	Leander McCormick.
Clarksville	Mecklenburg	.....	16	.....	.....	.....	.....	.....	.....	.....	3.58	.....	0.92	.....	8	.....	.....	.....	.....	J. Henry Ligon.
Columbia‡	Fluvanna	246	12	37.3	.....	72	3	12	1†	42	4.10	.....	0.93	6.0	12	10	5	16	sw.	Chesapeake & Ohio R. R.
Danville	Pittsylvania	413	10	.....	.....	.....	.....	.....	.....	.....	3.38	.....	0.98	1.7	10	14	1	16	n.	C. G. Watkins.
Diamond Springs	Princess Anne	20	...	39.1	.....	65	3	17	11	47	2.64	.....	0.75	0.5	7	.....	.....	.....	.....	Virginia Experiment Sta.
Hampton	Elizabeth City	5	27	40.8	+ 0.6	62	3	21	11	35	2.04	− 0.71	0.45	0.0	8	17	8	6	sw.	Hampton Institute.
Hot Springs	Bath	2,195	18	31.5	+ 1.1	59	3	9	8†	39	3.98	+ 1.01	1.40	8.0	9	8	10	13	.....	James P. Scott.
Ivor	Southampton	87	1	39.6	.....	71	3	11	8†	47	2.25	.....	1.50	.....	7	.....	.....	.....	.....	N. & W. Ry., Exp. Farm.
Lassiter	Goochland	100	.....	.....	.....	.....	.....	.....	.....	.....	4.22	.....	1.40	.....	9	18	1	12	.....	T. J. Davis.
Lexington‡	Rockbridge	1,060	33	33.2	− 0.6	68	3	10	11†	35	3.30	+ 0.02	1.04	7.4	9	14	6	11	.....	Virginia Military Institute.
Lynchburg	Campbell	685	39	37.0	+ 0.2	71	3	14	11	32	3.44	− 0.18	1.29	3.0	13	7	9	15	nw.	U. S. Weather Bureau.
New Castle	Craig	1,300	1	.....	.....	.....	.....	.....	.....	.....	3.64	.....	1.08	.....	7	.....	.....	.....	.....	Miss J. L. Martin.
Newport News‡	Warwick	55	7	46.0	.....	64	7	18	11	35	2.48	.....	0.68	T.	11	13	6	12	nw.	Ernest W. Sniffen.
Norfolk	Norfolk	91	40	42.0	+ 0.8	69	3	24	4	37	2.53	− 0.67	0.60	1.5	13	9	12	10	s.	U. S. Weather Bureau.
Petersburg	Dinwiddie	60	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Central State Hospital.
Randolph	Charlotte	334	6	.....	.....	.....	.....	.....	.....	.....	4.14	.....	1.14	.....	9	.....	.....	.....	.....	W. B. Spencer.
Richmond	Henrico	144	31	39.0	+ 1.0	70	3	20	5	30	3.38	+ 0.36	0.69	1.8	12	5	15	11	s.	U. S. Weather Bureau.
Rocky Mount	Franklin	1,150	16	37.2	− 1.2	69	3	11	10†	37	3.76	+ 0.34	1.40	8.0	10	15	0	16	nw.	G. W. B. Hale.
Saxe	Charlotte	350	7	38.6	.....	72	3	10	11	35	4.23	.....	1.21	.....	9	20	0	11	sw.	State Experiment Farm.
Spottsville (near)	Surry	15	22	40.4	+ 1.8	72	3	13	11	35	3.62	+ 0.62	1.21	1.2	12	11	5	15	sw.	B. W. Jones.
Williamsburg	James City	70	19	40.4	+ 0.2	70	3	15	11	40	5.03	+ 2.02	1.15	T.	10	13	6	12	sw.	Eastern State Hospital.
North Carolina.																				
Beaufort	Carteret	10	8	46.2	.....	64	6	26	11	25	1.77	.....	1.06	0.0	7	13	9	9	sw.	H. D. Aller.
Belhaven	Beaufort	4	1	43.9	.....	74	3	16	1†	39	1.94	.....	0.91	0.0	3	16	6	9	w.	W. S. Hopkins.
Brewers	Wilkes	1,950	13	38.0	− 0.2	72	2†	12	9	40	3.28	− 0.80	1.06	3.0	7	10	11	10	w.	W. L. Brewer.
Caroleen	Rutherford	806	10	38.0	− 3.0	74	3	14	11	40	3.33	− 0.28	1.25	T.	7	10	12	9	nw.	S. B. Tanner.
Chalybeate Springs	Harnett	500	4	43.0	.....	74	3	11	11	46	4.19	.....	1.09	1.5	10	18	5	8	sw.	J. A. Smith.
Chapel Hill	Orange	500	52	43.2	+ 3.4	74	3	15	11	34	3.70	− 0.12	0.80	2.0	10	14	10	7	w.	Prof. A. H. Patterson.
Charlotte	Mecklenburg	773	34	41.6	+ 1.2	71	3	22	8	39	3.36	− 0.93	1.32	3.0	11	14	4	13	sw.	U. S. Weather Bureau.
Chimney Rock	Rutherford	1,150	...	40.6	.....	77	3	16	8†	40	3.17	.....	1.06	.....	7	13	9	9	n.	Dr. L. B. Morse.
Clinton	Sampson	156	3	45.0	.....	74	3	17	11	40	2.58	.....	0.75	0.0	6	14	14	3	n.	W. T. Boyette.
Durham (near)	Durham	406	1	.....	.....	.....	.....	.....	.....	.....	3.30	.....	0.93	.....	7	.....	.....	.....	.....	Supt. Durham Water Co.
Eagletown	Northampton	66	5	41.7	.....	70	3	17	11	38	3.15	.....	1.04	T.	11	16	8	7	sw.	J. T. Elliott.
Edenton	Chowan	30	16	41.2	− 0.8	68	3	17	11	35	3.80	+ 0.28	1.75	0.0	5	12	11	8	s.	E. R. Conner.
Fayetteville	Cumberland	170	23	44.0	+ 0.9	75	3	17	11	41	3.62	− 0.56	1.44	T.	6	.....	.....	.....	.....	Frank Glover.
Goldsboro	Wayne	102	40	44.0	+ 1.7	72	3	15	1†	44	3.19	+ 0.43	1.29	0.0	8	.....	.....	.....	w.	Mrs. N. B. Taylor.
Graham	Alamance	656	8	.....	.....	.....	.....	.....	.....	.....	3.47	.....	1.23	3.0	10	.....	.....	.....	.....	Dr. W. R. Goley.
Greensboro	Guilford	843	29	40.0	− 0.1	72	3	18	8†	37	3.82	+ 0.68	1.20	.....	10	.....	.....	.....	sw.	A. R. Horry.
Greenville	Pitt	75	17	.....	.....	.....	.....	.....	.....	.....	2.25	− 1.36	1.03	0.0	7	.....	.....	.....	.....	C. V. York.
Hatteras	Dare	11	36	46.6	+ 0.8	66	6	29	10	27	2.35	− 2.59	1.19	0.0	8	13	5	13	sw.	U. S. Weather Bureau.
Henderson	Vance	490	17	39.8	+ 0.4	70	3	19	8†	33	2.29	− 0.98	0.79	0.8	9	11	12	8	sw.	Enoch Powell.
Kinston	Lenoir	46	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. T. Edwards.
Lenoir	Caldwell	1,186	37	37.2	+ 0.3	75	3	12	8†	43	2.71	− 1.30	1.10	2.0	7	22	3	6	w.	G. M. Goforth.
Lexington	Davidson	810	9	39.8	.....	70	3	11	8	40	4.31	.....	1.42	4.1	8	15	7	9	s.	H. R. Berrier.
Lincolnton	Lincoln	994	5	39.0	.....	70	3	12	11	36	4.16	.....	1.08	4.5	8	16	0	15	s.	L. B. Thompson.
Louisburg	Franklin	375	19	41.6	+ 2.6	70	3	15	11	33	3.76	+ 0.45	1.12	T.	10	13	5	13	w.	T. B. Wilder.
Lumberton	Robeson	102	27	43.4	+ 0.5	75	3	16	10	47	4.03	+ 0.69	1.81	T.	9	.....	.....	.....	sw.	B. M. Davis.
Manteo	Dare	12	5	42.6	.....	68	3	20	1	30	2.94	.....	1.10	0.0	7	15	8	8	n.	U. S. Weather Bureau.
Marion	McDowell	1,425	18	39.1	− 0.1	80	3	12	8	45	3.08	− 0.93	1.17	3.5	11	13	9	9	e.	Sgt. Thomas McGuire.
Moncure	Chatham	145	16	42.0	+ 1.1	74	3	10	11	44	2.76	− 0.27	0.76	.....	11	16	4	11	nw.	B. J. Utley.
Monroe	Union	586	16	43.1	+ 1.8	77	3	11	8†	45	3.45	+ 0.42	1.02	.....	8	18	4	9	sw.	T. A. Ashcraft.
Morganton	Burke	1,135	23	39.0	+ 0.6	75	3	12	16	41	3.22	− 0.42	1.33	5.0	10	16	6	9	nw.	H. D. Judd.
Mt. Airy	Surry	1,048	22	36.4	− 0.3	71	3	10	11	41	3.67	+ 0.42	1.17	3.0	8	12	6	13	nw.	Prof. A. H. Merritt.
Mt. Holly	Gaston	616	13	.....	.....	.....	.....	.....	.....	.....	3.76	− 0.29	1.34	.....	8	.....	.....	.....	.....	J. W. Holland.
Nashville	Nash	190	6	40.6	.....	74	3	14	11	39	3.96	.....	1.54	T.	9	11	8	12	n.	J. B. Boddie.
Newbern	Craven	12	28	45.0	− 0.5	74	6	18	11	49	1.99	− 2.04	0.79	0.0	8	.....	.....	.....	sw.	J. B. Hill.
Pinehurst‡	Moore	650	6	43.8[a]	.....	72	3	19	11†	42	2.20	.....	0.90	.....	4	21	2	8	w.	General Office.
Pittsboro	Chatham	480	19	40.6	+ 1.5	70	3	13	11	35	2.60	− 1.00	1.30	.....	4	20	0	11	.....	B. M. Poe.
Raleigh	Wake	390	39	42.0	+ 1.6	71	3	22	11	37	4.05	+ 0.50	1.10	0.7	12	13	7	11	sw.	U. S. Weather Bureau.
Ramseur	Randolph	442	3	39.8	.....	71	3	11	11	40	3.19	.....	1.27	0.2	5	12	10	9	n.	P. P. Turner.
Randleman	...do	810	5	.....	.....	.....	.....	.....	.....	.....	3.77	.....	1.26	T.	11	.....	.....	.....	.....	J. R. Walton.
Reidsville	Rockingham	828	11	40.1	+ 4.0	73	3	17	8	33	4.05	+ 0.73	1.34	7.5	10	17	0	14	sw.	E. M. Redd.
Rockhouse	Macon	3,100	18	36.1	− 1.0	62	2	11	22	26	4.87	− 1.57	2.28	7.6	7	14	8	9	nw.	Berry C. Hawkins.
Rockingham	Richmond	210	15	43.7	+ 0.9	74	3	13	11	40	2.90	− 0.06	1.00	2.0	6	.....	.....	.....	.....	H. S. Ledbetter.
Roxboro	Person	600	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Bradsher.
Salem	Forsythe	1,000	15	38.4	+ 0.9	72	3	12	11	35	3.80	+ 0.77	1.25	.....	6	.....	.....	.....	.....	Rev. H. E. Rondthaler.
Salisbury	Rowan	760	26	41.0	0.0	73	3	14	11	44	4.52	+ 1.06	1.20	3.0	13	19	1	11	n.	Miss Thelma Wilkinson.
Saxon	Stokes	900	18	37.4	+ 0.4	70	3	10	11	36	3.34	− 0.02	1.15	6.0	6	10	8	13	sw.	R. P. McAnnaly.
Scotland Neck	Halifax	80	6	41.2[a]	.....	68	3	18	11	42	2.95	.....	0.95	.....	8	12	2	17	s.	J. Y. Savage.
Selma	Johnston	225	20	42.2	+ 1.4	74	3	18	11	38	5.30	+ 2.02	1.80	.....	7	.....	.....	.....	.....	Dr. R. J. Noble.
Settle	Iredell	700	14	38.0	− 0.4	72	3	12	11	35	2.52	− 0.50	1.20	3.0	8	16	4	11	nw.	C. H. Smith.
Sloan	Duplin	50	17	45.7	+ 0.5	74	3†	16	11	40	2.87	− 0.76	1.02	T.	6	17	7	7	w.	D. M. Sholar.
Snow Hill	Greene	80	5	42.8[a]	.....	71	3	13	11	38	2.26	.....	1.04	0.0	5	11	12	8	s.	Levi J. H. Mewborn.
Southern Pines	Moore	519	20	45.7[b]	+ 2.3	71	3†	21	11†	38	2.96	− 0.52	0.90	2.2	7	18	8	5	nw.	Mrs. P. H. Beck.
Southport	Brunswick	18	55	46.0	− 1.2	65	6	23	11	28	1.21	− 2.56	0.59	0.0	5	16	8	7	sw.	Mrs. Charles E. Taylor.
Statesville	Iredell	950	22	39.9	+ 2.6	74	3	13	11	35	4.59	+ 0.62	1.26	3.0	9	11	11	9	nw.	D. M. Thompson.
Tarboro	Edgecombe	50	25	41.8	+ 0.2	73	3	16	11	43	2.72	− 1.05	0.94	T.	11	14	5	12	sw.	E. V. Zoeller.
Troy	Montgomery	800	1	42.2	.....	71	3	19	8	41	3.38	.....	1.21	T.	8	20	5	6	sw.	Mrs. O. B. Deaton.
Weldon	Halifax	81	38	39.2	− 0.2	72	3	16	11†	50	3.52	− 0.01	0.87	T.	10	.....	.....	.....	s.	H. S. S. Cooper.
Whiteville	Columbus	59	5	45.2	.....	73	3	15	11	46	2.76	.....	0.84	0.0	8	13	12	4	sw.	Rev. C. C. Smith.
Willard	Pender	51	2	45.6	.....	72	3†	15	11†	41	2.13	.....	0.89	0.0	5	15	9	7	sw.	J. H. Jeffries.
Wilmington	New Hanover	52	39	47.0	+ 0.4	71	6	22	11	33	1.07	− 2.43	0.58	0.0	6	12	13	6	sw.	U. S. Weather Bureau.
Yanceyville	Caswell	690	...	.....	.....	.....	.....	.....	.....	.....	3.55	.....	1.00	2.0	9	14	1	16	sw.	A. Y. Kerr.
South Carolina.																				
Aiken	Aiken	565	26	46.4	+ 0.1	73	6	22	22	39	3.90	+ 0.11	1.70	0.0	6	24	6	1	nw.	Dr. Huger T. Hall.
Allendale	Barnwell	186	22	47.2	− 0.1	70	2†	24	11†	35	1.89	− 1.01	0.97	0.0	4	14	4	13	.....	A. R. Hiers.
Anderson	Anderson	764	9	41.2	.....	72	3	18	11	39	3.68	.....	0.98	.....	9	15	0	16	w.	H. H. Russell.
Batesburg	Lexington	656	22	46.2	+ 1.4	75	3	22	8	52	3.09	− 0.54	0.98	0.0	7	15	1	15	n.	E. J. Hite.
Beaufort	Beaufort	20	24	47.6	− 3.0	68	27	28	11	31	1.15	− 1.65	0.70	T.	5	17	14	0	nw.	Miss E. G. Rice.
Blackville	Barnwell	296	22	46.3	− 0.1	78	2†	22	10	44	2.50	− 0.31	1.46	0.0	7	11	14	6	ne.	Miss M. E. Lange.
Blairs	Fairfield	293	9	.....	.....	.....	.....	.....	.....	.....	3.50	.....	1.34	0.0	4	15	9	7	w.	John R. Ragsdale.

TABLE 1.—*Climatological data for January, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.					Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Carolina—Cont'd.																				
Bowman	Orangeburg	160	5	47.4	.....	76	6	18	10	43	1.48	.....	0.72	0.0	5	18	10	3	w.	B. O. Evans.
Calhoun Falls	Abbeville	508	17	.....	.....	.....	.....	.....	.....	.....	2.55	− 1.21	0.75	0.0	6	21	0	10	nw.	P. J. Pfiefer.
Camden	Kershaw	222	44	.....	.....	.....	.....	.....	.....	.....	3.32	+ 0.12	1.16	C.0	10	19	3	9	nw.	W. C. Brown.
Catawba	York	562	5	.....	.....	.....	.....	.....	.....	.....	4.24	.....	1.68	0.6	10	14	5	12	sw.	Jas. C. Faris.
Chappells	Newberry	402	5	.....	.....	.....	.....	.....	.....	.....	2.70	.....	1.68	0.0	6	12	8	11	sw.	W. R. Zimmerman.
Charleston	Charleston	48	40	49.2	− 0.1	74	3	29	22	27	1.39	− 2.06	0.79	0.0	7	12	13	6	sw.	U. S. Weather Bureau.
Cheraw	Chesterfield	144	22	44.4	+ 1.6	75	3	17	11	39	2.99	+ 0.15	0.78	0.1	11	14	7	10	s.	J. H. Powe.
Clemson College	Oconee	850	19	40.4	− 1.6	70	3	14	11	36	3.12	− 1.77	1.13	0.0	7	15	5	11	w.	Prof. John N. Hook.
Columbia	Richland	351	23	45.2	+ 0.1	75	3	20	11	40	2.81	− 0.48	1.85	T.	10	7	13	11	sw.	U. S. Weather Bureau.
Conway	Horry	25	18	46.6	− 0.8	75	3	20	11	41	2.83	− 0.57	0.97	0.0	5	13	0	18	sw.	P. C. Quattlebaum.
Darlington	Darlington	175	15	44.3	.....	74	31	11	12	37	2.08	− 0.38	0.55	0.0	6	20	3	8	.....	D. C. McCall.
Dillon	Marion	100	6	.....	.....	.....	.....	18	11	.....	3.69	.....	1.10	0.0	8	.....	.....	.....	.....	A. E. Rowell.
Effingham	Florence	106	18	.....	.....	.....	.....	.....	.....	.....	4.37	+ 1.01	0.92	0.0	6	19	0	12	sw.	H. B. McCall.
Ferguson	Berkeley	51	2	.....	.....	.....	.....	.....	.....	.....	2.83	.....	1.00	0.0	6	16	5	10	w.	Pierre Gaillard.
Florence	Florence	136	22	45.1	+ 1.6	75	31	20	11†	41	2.62	+ 0.06	0.90	0.0	6	20	0	11	nw.	H. K. Gilbert.
Georgetown	Georgetown	12	17	49.0	+ 1.3	70	6†	26	11	31	.....	.....	.....	.....	.....	19	9	3	w.	Wm. Alden James.
Greenville	Greenville	989	18	42.2	− 1.2	80	3	16	11†	49	3.10	− 1.12	1.10	0.5	7	13	1	17	nw.	Mrs. S. A. Crittenden.
Greenwood	Greenwood	671	22	40.9	− 0.9	70	3	20	11†	37	3.90	+ 0.38	1.40	0.0	9	17	0	14	w.	M. M. Calhoun.
Heath Springs	Lancaster	568	9	44.9	.....	70	6	25	22	32	3.81	.....	2.02	1.0	6	18	8	6	w.	J. A. Weaner.
Jacksonboro	Colleton	13	2	47.3	.....	71	3	23	23	33	1.43	.....	0.84	0.0	3	16	12	3	sw.	W. E. Haskell, jr.
Kingstree	Williamsburg	54	22	46.8	− 0.5	76	2	18	11	44	2.70	− 0.10	0.98	0.0	6	18	6	7	nw.	A. O. Matthews.
Liberty	Pickens	900	16	41.0	− 0.8	73	3	14	11	35	4.45	− 0.45	1.75	0.5	8	15	6	10	w.	Jno. T. Boggs.
Little Mountain	Newberry	711	17	44.8	− 0.2	74	3	20	11	40	3.49	+ 0.39	1.25	0.0	7	18	6	7	w.	Dr. J. M. Scase.
Newberry	...do	592	6	44.0	.....	73	31	16	11	42	4.02	.....	1.48	T.	10	13	3	15	w.	W. G. Peterson.
Pelzer	Anderson	873	5	.....	.....	.....	.....	.....	.....	.....	3.50	.....	0.96	0.0	9	12	7	12	w.	John M. Ward.
Pinopolis	Berkeley	55	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss E. P. Ravenel.
St. George	Dorchester	109	22	47.2	+ 0.1	72	31	22	11	35	2.35	− 0.56	1.20	0.0	5	18	0	13	.....	G. F. Lewis.
St. Matthews	Calhoun	200	22	44.5	− 1.4	74	3	20	11†	46	1.67	− 1.69	0.73	0.0	8	18	0	13	.....	J. S. Wannamaker.
Saluda	Saluda	530	8	44.9	.....	73	6	16	11	40	3.79	.....	1.65	0.0	6	14	9	12	sw.	Alvin Etheridge.
Santuc	Union	512	15	43.0	+ 0.6	72	3	14	11	40	4.00	+ 0.62	1.84	C.5	10	10	9	12	w.	E. W. Jeter.
Smith Mills	Williamsburg	62	15	.....	.....	.....	.....	.....	.....	.....	2.86	+ 0.29	0.85	0.0	6	1.	1	11	n.	W. C. Walker.
Society Hill	Darlington	192	19	43.4	+ 0.1	70	3	19	10†	39	2.03	− 0.02	1.02	0.0	4	15	2	14	sw.	J. J. Lucas.
Spartanburg	Spartanburg	875	19	39.8	− 2.4	74	3	15	1†	41	3.67	− 0.12	1.36	0.5	9	11	0	20	.....	F. P. Robinson.
Summerville	Dorchester	75	13	49.0	+ 0.8	79	6	21	23	42	2.82	− 0.28	0.94	0.0	9	3	26	2	sw.	Miss E. H. Gadsen.
Trenton	Edgefield	620	17	44.7	− 1.7	68	7	19	22	42	3.82	+ 0.50	1.63	T.	6	16	9	6	w.	C. A. Long.
Trial	Berkeley	85	23	47.2	+ C.1	77	14	16	11	42	2.47	− 1.10	1.10	0.0	7	6	17	8	nw.	Etsell Gaillard.
Walhalla	Oconee	1,061	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. L. Fant.
Walterboro	Colleton	69	6	49.8c	.....	78	3	22	23	40	2.37	.....	1.19	0.0	8	15	10	6	.....	J. A. Westerberg.
Winnsboro	Fairfield	545	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John W. Seigler.
Winthrop College	York	690	11	43.6	+ 0.8	72	3	16	11	42	3.88	+ 1.03	1.44	1.0	10	17	7	7	sw.	E. R. Rivers.
Yemassee	Hampton	23	15	47.4	− 0.5	75	6	22	23	37	1.91	− 0.60	C.96	0.0	6	16	2	13	.....	J. G. Hutson.
Georgia.																				
Abbeville	Wilcox	.....	7	.....	.....	.....	.....	.....	.....	.....	2.16	.....	0.72	0.0	6	.....	.....	.....	w.	W. H. Calhoun.
Adairsville	Bartow	772	18	39.2c	− 1.4	70c	3	16b	1	40d	2.82	− 1.53	1.12	T.	5	.....	.....	.....	.....	Dr. J. P. Bowdoin.
Albany	Dougherty	230	25	50.0	+ 1.5	75	21	24	1	43	3.39	− 0.49	1.74	T.	7	13	5	13	nw.	Geo. C. Brosnan.
Allapaha	Berrien	293	21	51.6a	+ 2.3	78a	4	25	8	40	2.12	− 1.40	0.87	0.0	4	8	14	9	w.	James T. Austin.
Americus	Sumter	362	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. D. Reese.
Athens	Clarke	694	33	46.2	− 1.7	68	3	20	11	34	3.75	− 1.44	1.50	0.0	8	17	2	12	w.	C. D. Cox.
Atlanta	Fulton	1,218	45	42.4	− 0.2	67	3	18	7	39	3.49	− 1.29	0.92	0.3	9	10	4	17	w.	U. S. Weather Bureau.
Augusta	Richmond	180	44	46.6	− C.4	75	6	22	11	39	3.23	− 0.75	1.37	T.	9	11	8	12	w.	U. S. Weather Bureau.
Bainbridge	Decatur	119	18	50.8	+ 1.0	78	31	20	8	48	2.23	− 1.50	1.00	T.	5	17	2	12	n.	Mrs. C. O. Wimberley.
Barnesville	Pike	875	2	44.8b	.....	71b	3	22b	8	34	3.82	.....	1.84	T.	9	.....	.....	.....	.....	Prof. T. O. Galloway.
Blakely	Early	300	19	49.4	0.0	76	21	22	8	40	2.64	− 1.61	1.14	T.	4	14	13	4	n.	Ralph M. Hobbs.
Brunswick	Glynn	14	12	52.8b	+ 0.2	76b	7	24b	5	39	0.93	− 2.68	0.40	T.	3	.....	.....	.....	.....	J. B. High.
Butler	Taylor	650	8	.....	.....	.....	.....	.....	.....	.....	4.20	.....	2.84	T.	6	.....	.....	.....	n.	Mrs. Mamie F. Wallace.
Camak	Warren	613	17	44.2	0.0	75	3	17	11	43	3.87	+ 0.33	1.30	T.	6	13	3	15	.....	J. A. Chapman.
Canton	Cherokee	894	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. McAfee.
Carlton	Madison	557	11	.....	.....	.....	.....	.....	.....	.....	4.00	+ 1.18	0.98	0.0	8	.....	.....	.....	w.	M. C. Power.
Carrollton	Carroll	.....	13	42.2b	+ 0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. Folk.
Clayton	Rabun	2,100	17	38.6	− 1.4	70	3	13	11	41	4.88	− 0.76	1.50	1.0	7	17	2	12	w.	A. J. Duncan.
Columbus	Muscogee	262	23	46.9a	+ 0.8	74a	6	22	8	38	3.08	− 0.71	1.39	T.	8	20	4	7	nw.	A. J. Land.
Covington	Newton	800	17	.....	.....	.....	.....	.....	.....	.....	4.53	+ 0.54	1.65	0.0	9	.....	.....	.....	sw.	Rufus Cruse.
Cuthbert	Randolph	446	11	48.1a	− 2.5	73a	21	24a	7	45	2.92	.....	1.10	T.	5	11	17	3	.....	Prof. W. McMichael.
Dahlonega	Lumpkin	1,519	18	39.6	− 0.7	66	3	17	22†	33	4.07	− 1.14	1.71	3.0	11	8	13	10	nw.	Prof. B. P. Gailliard.
Diamond	Gilmer	2,020	20	39.4a	+ 0.3	68a	3	15a	11	36	3.68	− 1.72	1.36	2.5	10	10	5	16	.....	R. A. Kimsey.
Douglass	Coffee	500	3	50.1d	.....	78d	6	24d	23	39	2.52	.....	0.74	0.0	8	.....	.....	.....	.....	Prof. C. W. Davis.
Dublin	Laurens	452	16	.....	.....	.....	.....	.....	.....	.....	3.38	− 0.05	1.14	T.	6	.....	.....	.....	nw.	Mrs. M. E. Martin.
Dudley	...do	.....	8	48.5	.....	78	3	24	11	44	3.06	.....	1.05	T.	6	14	9	8	se.	J. H. M. O. Sullivan.
Eastman	Dodge	361	19	48.4a	− 0.4	74a	2	21	3	51	2.98	− 0.35	1.09	0.0	6	12	9	10	w.	Miss A. M. Bohannon.
Eatonton	Putnam	.....	7	44.6f	.....	72f	2†	17f	11	43	4.76‖	.....	2.00	0.0	7	.....	.....	.....	.....	Prof. W. C. Wright.
Elberton	Elbert	710	19	43.9	+ 0.9	72	3	20	11†	41	4.50	− 0.21	1.30	0.0	8	16	7	8	w.	H. A. Roebuck.
Experiment	Spalding	946	10	44.2	.....	73	3	19	8†	41	4.09	.....	1.70	T.	9	10	17	4	.....	Martin V. Calvin.
Fort Gaines	Clay	166	23	46.9	− 0.5	75	2	19	8	40	2.71	− 1.06	1.10	T.	5	15	0	16	se.	Mrs. Eva T. Graham.
Gainesville	Hall	1,254	34	37.4	− 2.5	57	4	14	22	30	3.57	− 1.65	1.08	1.0	8	20	0	11	w.	W. C. Walker.
Gillsville	...do	1,052	20	40.8	− 2.3	70	3	20	8†	34	3.18	− 0.99	0.95	1.5	6	13	5	13	w.	J. W. Casey.
Glennville	Tatnall	.....	5	48.6	.....	76	6	25	1	38	1.47	.....	0.58	T.	6	20	8	3	nw.	Wm. C. Barnard.
Gore	Chattooga	.....	12	40.9	0.0	71	3	16	7†	35	2.48	− 1.76	1.23	0.5‖	9	13	3	15	s.	H. M. Ponder.
Greensboro	Greene	598	8	44.0	.....	70	3	21	11	35	4.82	.....	1.80	0.2	9	15	5	11	w.	R. L. Caldwell.
Griffin	Spalding	975	21	43.6a	− 1.4	71a	3	18	8	34	4.21	+ 1.13	1.65	0.3	9	8	10	13	nw.	V. P. Enloe.
Harrison	Washington	245	12	46.0	− C.5	75	6	18	11	47	3.32	+ 0.08	1.30	0.0	7	22	1	8	w.	A. W. J. Wood.
Hartwell	Hart	838	2	42.8	.....	72	3	19	8†	37	1.57	.....	1.12	0.5	5	25	1	5	sw.	Dr. W. I. Hailey.
Hawkinsville	Pulaski	235	15	46.5j	+ 0.5	77b	1	23b	8	51	1.68	− 2.36	0.90	T.	4	14	9	8	nw.	R. H. Wood.
Helena	Telfair	260	3	49.8	.....	77	6	24	23	43	1.80	.....	0.89	T.	7	2	18	11	w.	James D. Smith.
LaFayette	Walker	871	4	40.0	.....	68	3	14	7†	39	3.02	.....	1.72	T.	7	9	8	14	nw.	Ralph A. Snow.
Lisbon	Lincoln	.....	4	44.2	.....	75	2	14	11	44	4.34	.....	1.70	0.0	9	9	0	22	nw.	B. J. DuBose.
Lost Mountain	Cobb	.....	10	41.6	.....	69	3	12	7	32	3.80	.....	1.30	2.0‖	7	4	16	11	w.	A. N. Mayes.
Louisville	Jefferson	259	18	47.6	+ 0.8	75	6	23	11	35	3.13	− 0.26	1.25	0.3	7	15	15	1	.....	J. C. Little.
Lumber City	Telfair	.....	2	.....	.....	.....	.....	.....	.....	.....	2.48	.....	1.62	0.0	5	.....	.....	.....	s.	Walter A. Hilton.
Lumpkin	Stewart	650	17	48.9	+ 0.8	77	4	23	8	33	3.81	− 0.23	1.33	T.	7	14	10	7	nw.	A. W. Latimer.
Macon	Bibb	370	33	46.0	− 0.7	73	6	23	8	35	4.45	+0.75	2.08	0.1	8	16	6	9	nw.	U. S. Weather Bureau.
Marshallville	Macon	500	18	47.0a	− 0.3	73a	21	20	8	40	3.99	− 0.35	1.65	T.	9	8	11	12	e.	E. C. Bryan.
Mauzy	Colquitt	.....	12	51.3b	+ 0.1	78b	6	24b	23	40	2.74	− 0.73	1.20	0.0	4	.....	.....	.....	.....	T. J. Hudson.
Milledgeville	Baldwin	276	22	44.6a	+ 0.6	72a	31	19	11	45	4.49	+ 0.31	1.60	0.2	9	12	6	13	nw.	Prof. O. M. Cone.
Millen	Jenkins	158	23	46.5	− C.7	78	6	19	11	45	2.19	− 0.86	0.95	0.0	5	18	0	13	nw.	M. G. McComb.
Montezuma	Macon	292	5	.....	.....	.....	.....	.....	.....	.....	2.80	.....	1.12	0.0	8	14	8	9	nw.	W. N. Drewry.
Monticello	Jasper	800	14	44.4	− 0.8	73	3	19	8	38	4.89	+ 0.42	2.31	0.0	11	18	0	13	.....	Miss Maude C. Penn.
Morgan	Calhoun	337	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Beck.

TABLE 1.—*Climatological data for January, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Cont'd.																				
Newnan	Coweta	959	22	45.6	+ 3.6	76	2	19	7	52	3.62	− 0.20	1.25	T.	6	16	2	13	nw.	Mrs. I. J. Milner.
Oakdale	Fulton	810	10	.....	.....	.....	.....	.....	.....	.....	4.70	.....	1.38	T.	7	14	3	14	nw.	W. R. B. Whittier.
Point Peter	Oglethorpe	1,000	21	43.2	+ 0.9	72	3	15	11	40	4.38	− 0.37	1.37	0.0	8	.....	.....	.....	w.	C. M. Witcher.
Poulan	Worth	365	19	49.3	+ 1.7	79	4	22	23	40	2.46	− 1.38	0.72	T.	5	15	11	5	.....	Dr. J. F. Wilson.
Putnam	Marion	.....	11	48.6	.....	78	2†	20	8	48	3.85	+ 0.19	2.30	C.0	4	14	7	10	s.	Mrs. J. M. Collum.
Quitman	Brooks	173	26	52.2	+ 1.4	81	4	26	8	40	2.87	− 0.87	1.20	0.0	6	24	2	5	ne.	A. B. Jones.
Ramsey	Murray	1,363	17	43.4	+ 0.6	71	3	15	8	31	2.97	− 1.18	0.85	1.0	9	12	3	16	n.	D. E. Humphreys.
Resaca	Gordon	657	17	.....	.....	.....	.....	.....	.....	.....	1.92	− 2.68	1.00	T.	4	9	0	22	n.	D. A. Norton.
Rome	Floyd	576	55	40.1	− 2.5	71	3	16	8	42	3.17	− 1.97	1.32	0.5	7	14	3	14	w.	W. M. Towers.
St. George	Charlton	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. N. Lund.
St. Marys	Camden	20	19	52.1	− 0.3	84	3	23	23	45	0.76	− 2.13	0.35	0.0	3	13	14	4	sw.	David C. Sterling.
Savannah	Chatham	65	60	49.9	− 1.5	72	6	29	22	30	1.03	− 2.09	0.49	0.2	7	13	11	7	w.	U. S. Weather Bureau.
Statesboro	Bulloch	253	10	48.8	.....	76	6	25	11†	40	2.06	− 1.36	1.22	0.2	8	13	15	3	.....	J. C. Cromley.
Talbotton	Talbot	750	17	47.6	+ 1.5	73	3†	21	8	37	4.76	+ 0.84	2.30	0.0	5	13	5	13	nw.	Dr. E. L. Bardwell.
Tallapoosa	Haralson	1,150	18	42.8	+ 1.1	71	3	16	7†	46	1.45	− 2.17	1.40	0.0	2	17	0	14	n.	R. M. Strickland.
Thomasville	Thomas	273	27	50.6	− 1.3	76	3	25	8	35	3.22	− 0.53	1.44	T.	6	15	9	7	s.	U. S. Weather Bureau.
Toccoa	Stephens	1,050	25	39.0	− 2.8	71	3	18	11†	36	3.45	− 1.62	0.90	3.2	9	21	0	10	w.	E. A. Newton.
Valdosta	Lowndes	219	5	50.7	.....	79	6	21	1	48	2.05	.....	1.12	0.0	4	20	1	10	e.	Miss Annie L. Twitty.
Valona	McIntosh	10	10	50.3	+ 0.4	74	3†	21	23	36	0.68	.....	0.33	T.	4	29	2	0	sw.	J. M. Atwood.
Washington	Wilkes	630	23	42.8	− 0.5	73	3	22	22	38	4.57	+ 0.83	1.42	T.	7	14	4	13	ne.	Miss Ella B. Smith.
Wayeross	Ware	131	21	49.9	− 0.6	80	17	22	1	46	1.46	− 1.73	0.55	0.0	5	12	7	12	se.	Thomas Sasser.
Waynesboro	Burke	86	19	47.2	+ 1.4	73	3	22	11	40	3.83	+ 1.69	1.80	0.0	5	19	7	5	nw.	Mrs. H. W. Blount.
West Point	Troup	620	22	44.2	− 0.1	76	3	20	8	37	4.23	+ 0.80	1.64	0.1	9	14	1	16	ne.	E. N. Dunn.
Woodbury	Meriwether	641	10	43.4	.....	69	4†	16	10	38	3.41	.....	1.42	0.2	5	15	5	11	ne.	G. A. Wright.
Florida.																				
Apalachicola	Franklin	24	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Whiteside.
Arcadia	De Soto	61	9	60.2	.....	80	4†	28	1	42	0.97	.....	0.56	.....	5	7	13	11	e.	C. S. Bushnell.
Archer	Alachua	92	24	54.4	− 1.0	80	6	26	23	44	1.80	− 1.75	0.62	0.0	3	17	13	1	.....	R. B. Hodgson.
Avon Park	De Soto	150	12	60.3	− 1.1	84	4	31	1†	42	0.70	− 1.56	0.45	0.0	5	18	6	7	ne.	O. R. Thacher.
Bartow	Polk	115	14	56.8	− 3.3	79	6†	25	1	46	0.93	− 1.38	0.60	0.0	8	11	15	5	ne.	Wm. Hood.
Blountstown	Calhoun	.....	2	50.0	.....	70[a]	4†	20	22	34	2.28	.....	1.14	0.0	5	22	6	3	nw.	C. L. Hobbs.
Bonifay	Holmes	111	8	52.0	.....	75	6	26	8†	44	3.58	.....	1.06	0.0	5	11	5	15	s.	Wm. Rush.
Brooksville	Hernando	126	16	58.6[c]	+ 0.6	80	4	32[a]	23	....	1.62	− 1.39	0.67	0.0	3	18	9	4	w.	C. C. Peck.
Carrabelle	Franklin	10	11	50.2[b]	− 3.3	68	27	27[d]	8	....	2.10	− 0.89	0.70	.....	4	.....	.....	.....	.....	J. J. Blomquist.
Cedar Keys	Levy	10	12	54.8	− 2.8	71	4†	38	10	29	1.79	− 1.83	0.65	0.0	6	28	0	3	nw.	J. B. Lutterloh.
Clermont	Lake	105	17	58.4	− 1.5	78	6†	33	22	31	0.80	− 1.88	0.60	0.0	2	9	20	2	.....	S. S. Fesler.
DeFuniak Springs	Walton	193	13	52.4[b]	+ 0.8	78[b]	4	24[b]	8	40	2.52	− 1.41	0.68	0.0	8	.....	.....	.....	s.	R. W. Storrs.
DeLand	Volusia	27	12	56.2	− 1.7	80	6	24	23	40	0.57	.....	0.27	0.0	4	11	14	6	ne.	Dr. O. B. Webster.
Eustis	Lake	56	19	56.0	− 2.5	78	4†	28	23	43	0.60	− 2.33	0.22	0.0	3	13	11	7	ne.	C. T. Smith.
Federal Point	Putnam	5	17	55.2	− 0.7	78	6	25	23	40	0.83	− 2.09	0.30	0.0	7	13	16	2	ne.	E. S. Hubbard.
Fenholloway	Taylor	75	3	50.4[b]	.....	77[a]	6	21[b]	23	46	3.32	.....	1.62	0.0	4	.....	.....	.....	.....	Miss E. Wigglesworth.
Fernandina	Nassau	10	11	53.4	− 1.0	75	27	29	23	32	0.91	− 2.21	0.43	0.0	6	15	6	10	ne.	W. B. C. Duryee.
Fort Meade	Polk	125	25	58.8	− 0.4	80	3†	26	1	43	0.92	− 1.39	0.65	0.0	2	18	7	6	ne.	G. L. Broderick.
Fort Myers	Lee	12	26	61.2	− 1.3	77	4†	35	1	30	1.64	− 0.63	1.58	0.0	3	24	7	0	s.	Miss M. M. Gardner.
Fort Pierce	St. Lucie	6	17	60.0	− 2.7	78	8	31	22	34	0.57	− 2.74	0.20	0.0	6	10	8	13	w.	T. J. O'Brien.
Gainesville	Alachua	176	21	54.0	− 0.9	77	6	27	23	36	1.44	− 1.94	0.52	0.0	6	18	4	9	.....	J. P. H. Bell.
Grasmere	Orange	175	13	56.5	− 1.5	79	5†	20	1†	39	0.85	.....	0.40	0.0	4	19	5	7	ne.	J. B. Escott.
Hilliard	Nassau	69	1	54.2	.....	78	19	27	22	38	0.12	.....	0.06	0.0	4	17	7	7	.....	The Hilliard Co.
Huntington	Putnam	56	13	54.2	− 2.2	80	6	24	23	40	0.99	− 1.47	0.60	0.0	7	23	4	4	se.	C. E. Walker.
Hypoluxo	Palm Beach	4	12	65.0	− 0.7	82	7	39	22	31	1.43	− 2.12	0.43	0.0	5	15	11	5	ne.	G. A. Angevine.
Inverness	Citrus	43	9	53.6[c]	.....	77[c]	6	24[c]	1	44	1.18	.....	0.50	0.0	4	.....	.....	.....	.....	W. H. Miller.
Jacksonville	Duval	101	38	53.0	− 0.9	74	4	34	22	27	1.06	− 2.06	0.33	0.0	9	11	12	8	sw.	U. S. Weather Bureau.
Jasper	Hamilton	152	9	51.6	.....	78[a]	5	22	22	45	3.41	+ 0.51	2.00	0.0	3	.....	.....	.....	.....	G. W. Duncan.
Johnstown	Bradford	125	11	52.9	− 1.3	78	4†	20	1†	49	1.20	− 1.38	0.55	0.0	4	17	8	6	.....	A. M. C. Brasch.
Jupiter	Palm Beach	34	22	64.5	+ 0.2	82	7	40	22	27	1.47	− 2.11	0.64	0.0	10	5	17	9	nw.	U. S. Weather Bureau.
Key West	Monroe	14	30	67.7	− 1.1	80	7	55	1	15	0.62	− 1.36	0.32	0.0	5	17	12	2	ne.	Do.
Kissimmee	Osceola	65	17	58.4[c]	− 2.0	77	18	29[f]	1	39	1.29	− 1.48	0.80	0.0	3	11	18	2	ne.	J. A. Simpson.
Lake City	Columbia	210	20	53.1	− 2.5	77	6	23	23	40	1.21	− 2.39	0.65	0.0	4	14	8	9	sw.	W. B. Knight.
Live Oak	Suwanee	109	5	51.6	.....	78	6	22	1	44	0.87	− 2.85	0.52	0.0	3	.....	.....	.....	.....	D. O. Henry.
Macclenny	Baker	125	13	52.2[a]	− 2.4	76[a]	6†	21[a]	23	41	0.91	− 1.78	0.70	0.0	2	.....	.....	.....	ne.	Griffing Bros. Co.
Madison	Madison	200	6	51.5	.....	79	6	21	1	47	1.84	− 1.54	1.06	T.	6	14	3	14	sw.	E. J. Vann.
Malabar	Brevard	24	8	59.8	.....	79	18†	29	1†	41	1.10	.....	0.43	0.0	6	17	11	3	e.	J. F. Farley.
Manatee	Manatee	8	26	58.6	− 2.1	78	6	35	1	32	1.55	− 1.16	0.80	.....	4	12	15	4	n.	W. P. Fuller.
Mariana	Jackson	80	8	50.4	.....	72	3†	25[a]	8†	39	2.80	.....	1.16	0.0	7	.....	.....	.....	sw.	W. J. Watson.
Meritts Island	Brevard	20	27	59.0	− 3.0	77	6	31	1	33	0.57	− 2.47	0.35	0.0	3	18	4	9	sw.	C. D. Provost.
Miami	Dade	5	13	67.2[b]	+ 1.5	84[c]	7	42	23	....	1.46	− 1.90	0.93	0.0	3	28	3	0	se.	E. V. Blackman.
Middleburg	Clay	10	8	54.8[c]	.....	79[c]	8	27[c]	1	44	2.35	.....	1.70	0.0	2	.....	.....	.....	.....	G. A. Chalker.
Milligan	Santa Rosa	.....	.....	.....	.....	76[f]	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Mapoles.
Molino	Escambia	49	8	50.8	.....	81	26	20	22	49	1.63	.....	0.80	0.0	3	20	4	7	s.	W. H. Trimmer.
Monticello	Jefferson	207	5	53.4	.....	77	4	28	8†	36	2.00	.....	1.50	0.0	2	20	4	7	n.	E. C. Potter.
Mt. Pleasant	Gadsden	260	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss A. Grubb.
Newport	Wakulla	10	9	51.2	.....	75	14	24	8	34	1.40	− 1.91	1.00	0.0	2	21	3	7	se.	J. M. Ladd.
New Smyrna	Volusia	9	21	58.0	− 1.6	81	7	25	23	47	0.79	− 2.37	0.42	0.0	2	.....	.....	.....	.....	F. Nordman.
Ocala	Marion	98	21	55.4[b]	− 2.0	78[b]	6†	26[b]	1†	39	1.19	− 1.47	0.54	0.0	4	20	4	7	.....	Dr. F. T. Schreiber.
Orange City	Volusia	39	16	56.2	− 2.1	85	6	22	23	47	0.82	− 1.75	0.74	0.0	2	.....	.....	.....	ne.	J. D. Graham.
Orlando	Orange	111	18	59.0	− 0.6	82	6	27	1	42	1.01	− 1.46	0.54	0.0	4	12	12	7	ne.	Jas. Thompson.
Pensacola	Escambia	149	32	52.8	+ 0.5	72	18	28	8	35	1.06	− 2.98	0.51	0.0	5	16	8	7	e.	U. S. Weather Bureau.
Plant City	Hillsborough	121	16	58.7	− 1.4	84	6	28	1	44	1.22	− 1.18	0.89	0.0	2	9	20	2	e.	E. B. Trask.
Rockledge	Brevard	28	2	58.2	.....	78	6†	31	1	37	0.35	.....	0.20	0.0	2	13	11	7	ne.	Rev. J. H. White.
Rockwell	Marion	60	8	56.2[a]	.....	78[a]	6	29[a]	24	33	3.15	+ 0.53	1.95	0.0	5	.....	.....	.....	.....	Dunellon Phos. Co.
St. Andrew	Washington	14	12	51.8	− 0.3	70	4†	29	23	30	2.60	− 0.46	1.37	0.0	5	27	3	1	s.	W. A. Emmons.
St. Augustine	St. Johns	10	60	55.0	− 1.2	79	6	25	23	37	0.81	− 1.88	0.32	0.0	3	9	14	8	ne.	J. R. Palmer.
Sand Key	Monroe	46	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
St. Leo	Pasco	140	14	57.6	− 1.8	77	6	30	1†	35	1.60	− 1.77	0.54	0.0	6	11	13	7	w.	G. Schneider.
Satsuma Heights	Putnam	98	2	52.8[a]	.....	75[a]	6	23[a]	22	34	0.48	.....	0.19	0.0	5	8	19	4	ne.	The Satsuma Co.
Switzerland	St. Johns	10	13	53.8	− 0.5	76	6†	24	23	38	1.41	− 1.34	0.82	0.0	4	.....	.....	.....	.....	W. C. Steele.
Tallahassee	Leon	192	23	50.6	− 1.5	71	3†	26	8	32	1.87	− 1.74	1.35	T.	6	12	14	5	w.	W. H. Markham.
Tampa	Hillsborough	79	20	58.4	+ 1.0	75	4	37	23	27	0.81	− 1.99	0.31	0.0	5	11	13	7	ne.	U. S. Weather Bureau.
Tarpon Springs	do.	20	25	57.9	− 0.9	79	4†	28	1	39	1.41	− 1.45	0.70	0.0	5	20	3	8	e.	A. P. Albaugh.
Titusville	Brevard	6	15	.....	.....	.....	.....	.....	.....	.....	0.55	− 0.90	0.27	0.0	3	.....	.....	.....	.....	F. M. Taylor.
Wausau	Washington	250	10	.....	.....	80[f]	6†	.....	.....	.....	2.66	− 0.93	0.83	0.0	6	18	8	5	n.	Curtis Jones.
Alabama.																				
Alaga	Houston	105	5	.....	.....	.....	.....	.....	.....	.....	2.28	.....	1.04	0.0	6	11	8	12	n.	James L. Willis.
Anniston	Calhoun	741	19	44.0	+ 1.8	72	3	16	7	39	3.62	− 1.69	1.31	0.1	7	9	4	18	n.	U. S. Weather Bureau.
Ashville	St. Clair	685	17	43.1	+ 0.5	70	3	11	8	40	4.41	− 0.24	2.53	T.	6	9	13	9	w.	George R. Cather.
Auburn	Lee	732	28	47.6	+ 1.8	71	3	20	8	32	4.40	− 0.20	1.90	T.	10	11	7	13	nw.	Dr. James T. Anderson.
Benton	Lowndes	149	9	.....	.....	.....	.....	.....	.....	.....	3.56	.....	1.49	0.0	5	18	7	6	w.	S. T. Pruitt.

TABLE 1.—*Climatological data for January, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Alabama—Cont'd.																			
Bermuda	Conecuh	.....	23	48.4[a]	− 0.4	74	6	18[a]	8	39[a]	4.06	+ 0.31	2.00	0.0	7	16	10	5	se.	M. J. Morris.
Birmingham	Jefferson	700	22	45.7	+ 0.4	69	3	15	7	38	3.75	− 1.57	1.44	T.	7	9	9	13	se.	U. S. Weather Bureau.
Calera	Shelby	500	9								3.81	.....	1.00	0.0	6	14	4	13	e.	L. G. Privett.
Camp Hill	Tallapoosa	738	9	47.2	.....	75	18	20	8†	32	3.90	.....	1.20	T.	8	13	14	....	nw.	Dr. Lyman Ward.
Cedar Bluff	Cherokee	594	6								3.36	.....	1.91	1.0	5	10	15	6	.....	Joe L. Daniel.
Citronelle	Mobile	331	22	51.8	− 0.1	74	2	21	7	36	3.03	− 1.33	1.00	0.0	10	22	4	5	s.	George A. Maloney.
Clanton	Chilton	590	17	46.0	+ 0.2	72	3	16	7	34	3.25	− 0.88	1.18	T.	8	11	0	20	se.	Wallace C. Edler.
Cochrane	Pickens															11	6	14	s.	E. L. Rose.
Cordova	Walker	334	19	44.4	+ 1.9	71	4	13	8	40	1.94	− 3.11	0.76	0.0	4	15	13	6	s.	Scott Maxwell.
Cullman	Cullman	802	2	42.4	.....	70	3	12	7	38	3.53	.....	1.54	T.	8	11	7	13	nw.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	5								3.18	.....	1.07	T.	6	13	5	13	nw.	Dr. W. B. Fulton.
Daphne	Baldwin	.....	19	53.4	+ 2.5	76	5	21	8	36	1.89	− 1.47	1.00	0.0	4	19	5	7	nw.	John H. Young.
Demopolis	Marengo		18								3.48	− 0.46	1.40	T.	7	15	6	10	sw.	George E. Pegram.
Eufaula	Barbour	200	26	44.9	− 1.6	72	6	19	8	37	3.72	− 0.47	1.56	T.	7	17	4	10	nw.	Dr. J. B. Whitlock.
Evergreen	Conecuh	285	26	48.0	+ 0.1	76	3†	20	8	39	4.60	+ 0.63	1.65	0.0	4	17	0	14	s.	Robert L. Whitcomb.
Fayette	Fayette	359	1																.....	Charles W. Saunders.
Flomaton	Escambia	91	18	50.0	0.0	78	5	20	8	40	2.46	− 2.12	0.80	0.0	5	19	7	5	n.	T. J. Farris.
Fort Deposit	Lowndes	520	26																.....	J. F. Hattemer.
Gadsden	Etowah	621	26	45.2	+ 2.6	73	3	15	7	32	3.54	− 1.63	2.00	2.5	7	10	4	17	ne.	D. P. Goodhue.
Goodwater	Coosa	826	15	43.8	− 0.8	68	29	13	7	41	3.48	− 1.14	0.93	0.0	5	21	0	10	sw.	D. S. Brown.
Greensboro	Hale	220	31	47.4	+ 1.8	73	3	19	7	33	3.30	− 1.58	1.07	0.0	6	15	3	13	nw.	W. E. W. Yerby.
Greenville	Butler	444	9								1.60	.....	0.64	0.0	3	23	0	8	se.	E. M. Lewis.
Hamilton	Marion	.....	14	45.1	+ 3.0	70	3†	11	7	43	4.90	+ 0.40	1.55	0.0	6	17	4	10	sw.	Prof. H. O. Sargent.
Highland Home	Crenshaw	.....	18	49.0	+ 0.6	73	6†	21	7†	38	2.73	− 1.44	1.30	T.	6	15	4	12	s.	Prof. Samuel Jordan.
Livingston	Sumter	160	26	43.2	− 2.4	71	2	18	7†	43	3.55	− 0.81	2.00	0.0	4	16	0	15	n.	Robert L. King.
Lock No. 4	Talladega	510	13	43.7	+ 0.6	71	3	16	7†	35	4.06	− 1.10	2.05	T.	9	22	0	9	nw.	U. S. Engineers.
Lucy	Houston		5	45.2		77	4	12	8	48	3.45	.....	1.30	T.	5	12	15	4	.....	A. L. Crosby.
Maple Grove	Cherokee		17	41.7[a]	+ 0.3	72[a]	3	16[a]	6	44[a]	3.58	− 1.33	1.81	0.0	7	8	10	13	nw.	Mrs. A. L. Awbrey.
Mentone	DeKalb	1,595	3								3.[illegible]	.....	2.05	0.7	3	19	1	11	w.	E. Mason.
Milstead	Macon		7								4.10		1.46	0.0	6	12	13	6	e.	Evie Oswalt.
Mobile	Mobile	57	38	52.4	+ 2.6	74	18	26	7	35	2.63	− 2.22	1.32	0.0	5	15	11	5	n.	U. S. Weather Bureau.
Montgomery	Montgomery	240	38	48.1	+ 0.4	72	3	20	7	46	3.21	− 1.90	1.33	T.	6	10	11	10	n.	Do
Newbern	Hale		17	47.3	+ 1.1	77	3	18	8	35	3.74	− 0.56	1.30	T.	8	11	11	9	n.	Dr. J. Huggins.
Oneonta	Blount	857	16	41.0	− 1.6	67	3	10	7	38	4.45	− 0.23	2.30	T.	10	13	5	13	n.	Aquilla J. Ketchum.
Opelika	Lee	817	31	45.8	0.0	68	5†	21	7	38	3.26	− 1.78	1.45	0.0	6	17	2	12	w.	A. H. Read, Jr.
Ozark	Dale	400	8	46.6		75	6†	23	8	42	1.60	.....	0.60	0.0	3	23	6	2	n.	Miss Lucy Sellers.
Prattville	Autauga	281	10	46.8	+ 0.4	73	2†	16	8	40	3.05	.....	1.52	T.	5	15	7	9	n.	Jos. B. Bell.
Pushmataha	Choctaw	.....	19	45.8[d]	− 1.5	73[d]	3†	16[d]	8	39[d]	4.78	− 0.22	2.00	0.0	5	17	5	9	sw.	E. A. Carr.
Selma	Dallas	147	30	45.4	− 2.4	73	2†	16	8	46	3.18	− 0.97	1.26	T.	7	7	10	14	ne.	Charles F. Brislin.
Spring Hill	Mobile	312	6	52.8		79	4	23	7†	39	2.44	.....	0.94	0.0	4	23	4	4	sw.	Rev. J. B. Franckhauser.
Talladega	Talladega	554	20	46.6	+ 1.3	71	3	19	7	38	4.17	− 0.51	1.73	0.0	10	10	11	10	nw.	Ross Bartholomew.
Tallassee	Elmore		19								3.52	− 0.87	1.42	0.0	8	12	1	18	nw.	P. A. Noble.
Thomasville	Clarke	385	19	47.4	+ 0.3	75	5†	17	8	43	3.59	− 0.28	1.85	0.0	6	17	6	8	s.	J. G. Forster.
Troy	Pike	581	2	49.6		75	18	21	8	36	3.62	.....	2.47	T.	5	13	17	1	se.	C. S. Tutwiler.
Tuscaloosa	Tuscaloosa	230	29	44.0	+ 0.1	73	3	17	7†	43	3.15	− 2.10	2.13	0.0	7	13	0	18	n.	W. S. Wyman.
Tuskegee	Macon	.....	10	48.8	+ 0.4	74	3†	20	8†	37	3.17	− 0.20	1.44	T.	5	10	14	7	w.	Prof. George W. Carver.
Union Springs	Bullock	216	23	47.0	+ 0.9	72	6	21	8	32	4.80	+ 0.38	1.60	T.	5	10	20	1	sw.	P. L. Cowan.
Uniontown	Perry	273	24	47.6[a]	+ 0.4	73[a]	2†	19[a]	7	38[a]	3.25	− 1.34	1.42	0.0	5	16	7	8	nw.	F. D. Stevens.
Valley Head	DeKalb	1,031	25	39.2[a]	− 0.7	69[a]	3	10[a]	7	40[a]	3.05	− 1.79	1.40	1.5	6	13	8	10	e.	M. T. Floyd.
Wetumpka	Elmore	205	18	48.8	+ 1.1	76	2†	20	7†	39	3.79	− 0.74	1.06	T.	5	16	0	15	n.	U. S. Engineers.
Mississippi.																				
Aberdeen	Monroe	210	22	44.3	+ 2.3	73	26	15	7	38	4.38	+ 0.40	2.10	0.0	6	14	1	16	n.	L. D. Godfrey, jr.
Agricultural College	Oktibbeha	424	20	46.2[a]	+ 1.7	70[a]	1†	15[a]	7	32[b]	4.07	− 1.35	1.42	0.0	5	12	10	7	n.	S. P. Dent.
Bay St. Louis	Hancock	28	17	52.2	+ 1.4	73	18	24	7	30	3.63	− 1.34	1.31	0.0	6	19	6	6	ne.	Brother Stanislaus.
Biloxi	Harrison	24	19	52.8	+ 1.3	70	2	24	7	28	3.09	− 0.58	1.16	0.0	6	14	8	7	nw.	Miss M. Josie Pope.
Booneville	Prentiss	504	16	42.3	+ 0.5	68	26	10	7	28	5.29	+ 0.47	2.02	T.	5	15	6	10	n.	Dr. D. T. Price.
Brookhaven	Lincoln	500	22	49.7[a]	+ 1.7	75[a]	26	18[a]	7	39[b]	3.31	− 1.81	1.42	0.0	7	12	7	11	e.	W. J. Bee.
Columbia	Marion	110	6								4.00	.....	1.80	0.0	6	14	6	11	s.	N. R. Drummond.
Columbus	Lowndes	191	22					15	7	42	2.90	− 2.34	1.20	0.0	5	13	0	18	se.	J. B. Love.
Crystal Springs	Copiah	408	18	48.8	+ 1.7	74	13	18	7	33	3.71	− 1.05	1.73	0.0	6	22	6	3	.....	D. H. Miller.
Edinburg	Leake		2	46.5	.....	78	4	15	7†	39	3.60	.....	1.87	0.0	6	15	3	13	n.	J. Y. Blocker.
Enterprise	Clarke	248	5								3.14	.....	0.92	0.0	6	10	4	17	nw.	J. B. Thompson.
Fulton	Itawamba		1								4.76	.....	2.08	0.0	6	12	3	16	n.	A. L. Summers.
Hattiesburg	Forest	189	17	50.6	+ 1.0	76	4	20	7†	44	2.08	− 2.91	0.90	0.0	6	16	1	14	s.	T. C. Spence.
Hazlehurst	Copiah	460	20	48.0		74	26	17	7	41	3.64	.....	1.68	T.	4	18	3	10	e.	J. D. Granberry.
Jackson	Hinds	280	23	50.2	+ 2.9	75	26	17	8	39	3.38	− 1.08	1.59	T.	8	15	10	6	s.	B. H. Klyce.
Lake	Scott	446	22			73	2†				2.12	− 2.66	1.10	0.0	4	13	6	12	e.	J. A. Freeman.
Lake Como	Jasper		7	47.7	.....	71	2	17	7†	40	1.60	.....	0.90	0.0	3	15	11	5	n.	C. Thigpen.
Laurel	Jones	241	6	50.4		72	26	18	7	38	3.02	.....	1.10	T.	5	16	9	6	sw.	Thomas W. Flynt.
Leakesville	Greene		16	52.2	+ 2.0	80	3	20	8†	44	3.63	− 0.91	2.11	0.0	6	18	4	9	.....	Dr. Sam Pool.
Louisville	Winston	561	21	47.5	+ 2.2	70	2†	15	7	38	3.45	− 1.58	1.55	0.0	5	....	....	....	.....	B. T. Webster.
McNeill	Pearl River	230	7	52.8		74	3	22	7	35	2.81	.....	1.16	0.0	4	19	7	5	se.	Prof. E. B. Ferris.
Macon	Noxubee	185	22	45.0[a]	− 0.1	74[a]	2	15[a]	7†	44[b]	2.60	.....	1.20	0.0	4	9	4	17	nw.	Finis E. Carleton.
Magnolia	Pike	415	14	52.2	+ 2.5	75	26	19	8	35	2.67	− 2.47	1.15	T.	5	11	14	6	n.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	20	48.2	+ 3.2	71	26	18	7	34	2.84	− 2.70	1.27	T.	7	12	9	10	sw.	U. S. Weather Bureau.
Merrill	Greene	76	5								3.56	.....	1.20	0.0	6	14	7	10	n.	L. C. Helms.
Monticello	Lawrence	209	3	49.6		75	2	16	8	42	2.77	.....	1.24	0.0	8	18	4	9	nw.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	22	42.8	+ 1.5	72	2	14	7	41	4.68	− 0.15	2.05	0.0	6	11	8	12	nw.	D. H. Shell.
Pascagoula	Jackson	15	1	51.6[g]		74[e]	4	23[e]	7	34[e]									se.	Tom Swartwout.
Pearlington	Hancock	10	22	52.6[a]	+ 0.6	73[a]	25	22[a]	8	34[a]	3.25	− 0.84	1.08	0.0	5	13	14	3	ne.	Miss Annette Koch.
Porterville	Kemper		5	47.8	.....	72	2	14	8	42	3.51	.....	1.50	0.0	5	12	8	11	sw.	I. S. Rea.
Shubuta	Clarke	197	5								5.04		2.04	0.0	8	16	4	11	s.	Geo. A. Floyd.
Waynesboro	Wayne	191	23	47.3	+ 0.1	84	5	18	8	42	3.93	− 0.84	1.85	0.0	4	16	2	13	n.	R. S. Burke.
Woodland	Chickasaw	.....	1	.....	.....	.....	.....	.....	.....	.....	3.92	.....	1.74	0.0	6	.....	.....	.....	.....	Tallahatchie Drain. Com.
Louisiana.																				
Pearl River	St. Tammany	.....	4	.....	.....	.....	.....	.....	.....	.....	2.30	.....	0.80	0.0	7	20	2	9	n.	Geo. F. Bancks.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 2, South Atlantic and east Gulf States.*

Stations.	River Basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Virginia.																																	
Arvonia	James					.15	.02	1.02						T.	.02			.20	.26	.01		1.06	.33		.20	.10	.02		.60	.52		.35	4.86
Ashland	do						.08								.16	.04		.18	.05			.15	.42		.08				.10	.38		.15	1.79
Buchanan	do							.96							.11			T.	.14	.18		.98	.11			.04				1.14			3.66
Callaville	Chowan					.46	.60	1.42		T.					.20			.14	.46	.10		1.90			.13	.11			.60	.16		.17	6.45
Cape Henry	Coast					.01	.24	.30		.15					.26			.15	.18	.11		.64			.13				.16	.05		.23	2.61
Catawba	Roanoke																																
Charlottesville	James					.12	T.	1.10					T.		.02			.18	.09			1.48	.50		.02	.04	T.		.50	.60		.08	4.73
Clarkesville	Roanoke						.06	.56								.15			.14	.44		.76	.16			.46				.86			3.58
Columbia	James					.27		.80							.10			.17	.23			.93	.05		.31	.07			.50	.32		.35	4.10
Danville	Roanoke					T.	.09	.56							.02			.04	.15	.27		.72	.07			.48				.98			3.38
Diamond Springs	Coast						.63				.22								.75			.65			.02					.32		.05	2.64
Hampton	do							.30		.34					.25				.15	.25		.45							.10	.20			2.04
Hot Springs	James							.95							.28			.04	.08	.39		1.40	.17				.02			.65			3.98
Ivor	Chowan						.20	.35							.10			.05	.10	.05									1.50				2.25
Lassiter	James					T.	.35	1.02							.05				.10			1.40			.10				.98	.12		.10	4.22
Lexington	do					T.	.85	.16					T.		.06			.14	.33			1.04	T.	.05					.27	.40			3.30
Lynchburg	do					.05	.77	.23							.07			.23	.19			1.29	T.		.17	.01	.01		.34	.67		.03	3.44
New Castle	do						.52	1.24						.24	.10					.72		1.08								.14			3.64
Newport News	Coast					T.	.10	.23		.18					.36			.05	.23	.10		.50			T.	.05			.63	.05		T.	2.48
Norfolk	do					T.	.21	.39	T.	.12					.20			.09	.20	.11	T.	.51	.01		.01				.42	.04		.22	2.53
Petersburg	James																																
Randolph	Roanoke						.20	.52								.08			.68	.32		.72	.42			.20		.08		.92			4.14
Richmond	James					.33	.30	.48						T.	.24			.21	.22			.65	T.		.18	T.	T.		.55	.14	.02	.06	3.38
Rocky Mount	Roanoke						.30	.78							.06			.12	.24	.01		1.40			.12			*	.73				3.76
Saxe	do							.51							.12			.14	.16	.28	.81				1.21				.67	.36			4.23
Spottsville (near)	Chowan					.20	.40	.53						.14	.12			.19	.40			.30			T.				1.21	.01	.04	.08	3.62
Williamsburg	James					T.	1.15	.85		.15					.40			.10	.38	.45		.40							.65	.50			5.03
North Carolina.																																	
Beaufort	Bogue Sound							.11		.10									.02	.09		1.06							.09	.30			1.77
Belhaven	Pungo									.81												.91							.22				1.94
Brewers	Pedee				T.	.61	.96											.13	.06			1.06			T.		.03			.43			3.28
Caroleen	Santee						.08	.43							.15			T.	.35			1.25							.85			.22	3.33
Chalybeate Springs	Cape Fear					.14	.97	.30		.02					T.			T.	T.	.44		1.09	.10		.18		T.		.87			.08	4.19
Chapel Hill	do						.50	.20										.05		.50		.80			.45				.58	.25		.16	3.70
Charlotte	Santee					.02	.20	.03							.02			T.	.34		.01	1.17			.18				1.26	.06	.07		3.36
Chimney Rock	do						.28	.62										.10	.31			1.06							.60	.20			3.17
Clinton	Cape Fear					.60	.20			.11									.18			.75							.74				2.58
Durham (near)	Neuse					.14	.20											.47			.90	.11			.55				.93				3.30
Eagletown	Chowan					.05	.20	.24		.13					.10			T.	T.	.35		1.04			.07		T.		.86	.08		.03	3.15
Edenton	Albemarle Sound														.25							1.75			T.		.75	1.00	.05				3.80
Fayetteville	Cape Fear						1.44			.30						T.				.23		.54	.22			T.		T.	.89				3.62
Goldsboro	Neuse					.02	.10	.50		.12						T.				.36		1.00	.29						T.	.80			3.19
Graham	Cape Fear						.23	.32							.02			T.	.08	.49		1.09	.14			.16			T.	1.18		.03	3.47
Greensboro	do			.05			.35	.20							.05				.10	.60		1.20	.02			.25				1.00			3.82
Greenville	Tar					T.		.33		.12									.08	.22		.60	.43							.47			2.25
Hatteras	Pamlico Sound						.04	.26		.18								T.	.10	.02		1.19			T.				.42	.14		T.	2.35
Henderson	Tar					.07		.29							.04			.08	.46			.18	.30		.79						T.	.08	2.29
Kinston	Neuse																																
Lenoir	Santee						.40	.52										.16	.12			1.10			T.				.32	.09			2.71
Lexington	Pedee					T.	.47							.10	T.			T.	.62			1.42			.37		.05		.65	.63			4.31
Lincolnton	Santee						1.01								.10			.02	.40			1.08			.80				.70	.55			4.16
Louisburg	Tar						1.12	.30		T.						.05			.03	.48		.62	.16			.13				.81		.06	3.76
Lumberton	Lumber					.01	1.65	.16		.24										.15		1.02	.01			T.			.02	.77		T.	4.03
Manteo	Roanoke Sound						.16	.14		.66					.02					.10		1.10							.76				2.94
Marion	Santee					.01	.01	.41	.72						.02			.07	.17	.02		1.17			.05				.43				3.08
Moncure	Cape Fear						.10	.08	.31						T.				.04	.34		.65	.06			.33		.01		.76		.08	2.76
Monroe	Pedee							.10	.22						T.					.35		.86	.09		.36				1.02	.45			3.45
Morganton	Santee					T.		.26	.53						T.			.07	.20	.05		1.33	.02		T.	.04			.20	.52			3.22
Mount Airy	Pedee					T.	.23	1.10								T.		.24	.14			1.17	T.		.07		.02		.10	.60			3.67
Mount Holly	Santee					T.	T.	.46							T.				T.	.40		1.20	T.		.16	.10			1.40	1.20		.10	3.76
Nashville	Tar						.90	.64		.09					T.				.06	.36		.80	.26			.05				.80		T.	3.96
Newbern	Neuse						.03	.20		.52									.03	.12		.79	.05							.25			1.99
Pinehurst	Lumber					T.	.40												.40			.50								.90			2.20
Pittsboro	Cape Fear					T.														.40		.70			T.				1.30			.20	2.60
Raleigh	Neuse					.60	.50	.34		T.					.02			T.	.52	.01		1.04			.13		T.		.77	.05	.03	.04	4.05
Ramseur	Cape Fear																	T.	.15			.84			.45				1.27		.48		3.19
Randleman	do					.04	.10	.34							.06			T.	.04	.58		.87	.12			.34				1.26		.02	3.77
Reidsville	do					.02	.07	.41										.09	.12	.37		1.32	.05		.26					1.34			4.05
Rockhouse	Savannah					.01	2.28								.11		T.	T.	.45		1.20	T.		.12					.70				4.87
Rockingham	Pedee																			.50		.70	.20		.30				1.00	.20			2.90
Roxboro	Roanoke																																
Salem	Pedee							.45										.20	.48			1.21			.30					1.25			3.89
Salisbury	do						.54	.29						.05				.05	.05	.48		1.20		.15	.18				.22	.97	.25	.09	4.52
Saxon	Roanoke						.33											.22	.36			1.15			.25					1.03			3.34
Scotland Neck	Tar						.33			.40					.06					.35		.75				.07			.95	.04			2.95
Selma	Neuse	.20					1.10		1.80		.45								.60					.40					.75				5.30
Settle	Pedee					.03	.03	.42						T.				.10	.40			T.			.25				.54	.66			2.52
Sloan	Cape Fear						.12	.06		.66									.11		.90								1.02			T.	2.87
Snow Hill	Neuse						.22			.25										.27		1.04							.48				2.26
Southern Pines	Cape Fear						.22								T.			T.	.35			.90	.22		.25				.90	.12		T.	2.96
Southport	do						.23	.11		T.									T.	.06		.59							.22				1.21
Statesville	Pedee		T.				.05	.40	.40									.12	.46			1.26			.32					.48	1.10		4.59
Tarboro	Tar						.14	.32		.08	.04				.03				.04	.32		.65	.17			.01				.94		T.	2.72
Troy	Pedee						.05	.45										T.		.58		.73			.29				.78	.43		.07	3.38
Weldon	Roanoke					T.	.60	.82		T.	T.				.01	.06			.02	.36		.10	.65			.03					.87	T.	T.	3.52
Whiteville	Waccamaw					.20	.55	.10		.50										.09	.84									.45	.03		T.	2.76
Willard	Cape Fear						.08			.47										.09		.89								.60				2.13
Wilmington	do						.11	.02		.15									T.	.06	T.	.58								.15		T.	1.07
Yanceyville	Roanoke						.10	.40										.20	.20	.20		1.00			.35			.60		.50		T.	3.55
South Carolina.																																	
Aiken	Edisto							.45												.10		.90			.60				1.70			.15	3.90
Allendale	Savannah									.34												.40			.18				.97				1.89
Anderson	do						.04	.43											.10	.04		.95			.53				.98	.46		.15	3.68
Batesburg	Edisto					.10	.40													T.		.42			.36				.77	.98		.06	3.09
Beaufort	Ocean											.03							.04		.70	T.			.01				.37				1.15
Blackville	Edisto				T.	T.	.20												.06			.45		.15				.12	1.46		.06		2.50
Blairs	Broad																					1.50			.36				.30	1.34			3.50
Bowman	Edisto					.06														.08		.44			.18				.72				1.48
Calhoun Falls	Savannah							.29												.16		.75			.32				.29	.74			2.55
Camden	Wateree					.10	.08	.32												.10		.50			.06	.20			.70	1.16		.10	3.32
Catawba	Catawba					T.	.02	.32							.04					.30		1.14	.06		.26	.20			.22	1.68			4.24
Chappells	Saluda							.20														.12				.16			.38	1.68		.16	2.70
Charleston	Ocean					.71	.08	.04		.10										T.		.10			.34				.12				1.39
Cheraw	Pedee					T.	.24	.23		.03				T.	.03					.15		.66	.03		T.	.26			.52	.78		.06	2.99

TABLE 2.—*Daily precipitation for January, 1910. District No. 2*—Continued.

Stations.	River Basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
South Carolina—Cont'd																																	
Clemson College	Savannah					.10	.18												.32		1.04			.25					1.13			.10	3.12
Columbia	Congaree					.02	.04	.07							T.			T.	.04		.05	.42			.28				1.83	.02	.04		2.81
Conway‖	Waccamaw						.82	.13		.41												.97	T.						T.	.50			2.83
Darlington	Pedee						.40			.36										.05		.50							.22	.55			2.08
Dillon	Little Pedee					1.10		.14		.33								T.		.09	T.	1.07			.03				.88	.05			3.69
Effingham‖	Lynches					.70	.80	.92														.90							.25	.80			4.37
Ferguson‖	Santee					.35				.55										.15		.70				.80				1.00			2.83
Florence‖	Pedee					.12	.55															.88				.12			.05	.90			2.62
Georgetown	Coast																																
Greenville‖	Saluda		T.				.05	.45							.05							1.10			.15				.51	.79			3.10
Greenwood‖	do						.05	.38							.03					.10		.78			.57				.48	1.40		.11	3.90
Heath Springs	Wateree				.23														.17		.10	.87			.35				2.02		.07		3.81
Jacksonboro	Combahee									T.												.84			T.				.44	.15			1.43
Kingstree‖	Black					T.	.53	.10		.42										.07		.60								.98			2.70
Liberty	Savannah	T.	T.			T.	.23	1.10							.05			T.	.30	.10		.85		.05			T.		1.75		T.		4.45
Little Mountain	Saluda						.07	.30											.07			1.25			.28				1.20			.32	3.49
Newberry	do					.05	.36								.05			.01		.15		.29			.27				1.48	.30		.06	4.02
Pelzer‖	do						.04	.42							.04				.22			.96			.36				.40	.86		.20	3.50
Pinopolis	Cooper																																
St. George‖	Edisto						.10	.10		.15												.80								1.20			2.35
St. Matthews‖	Santee					.05	.05	.26		.09												.21			.05				.23	.73			1.67
Saluda	Saluda							.40														1.65			.20				1.24	.25		.05	3.79
Santuc	Broad					T.	.02	.40							.05				.09	.06		1.05			.40				1.43	.41		.09	4.00
Smith Mills‖	Pedee						.85		.17	.59										.04		.78	T.							.43			2.86
Society Hill	do																			25		.53			.23				1.02				2.03
Spartanburg‖	Broad					T.	.05	.38							.05				T.	24		1.22			.27				.38	.98		.10	3.67
Summerville	Ashley					.14	.27	.15		.20										.07		.76			.04				.94	.15			2.82
Trenton	Edisto	T.				T.	T.	.44							T.				.10	.02		1.14			.49				1.63				3.82
Trial	Santee					.20		.12		.25									.10			.65			.05				1.10				2.47
Walhalla	Savannah																																
Walterboro	Ashepoo					.08	.11	.10		.18										.13		.56			.04				1.19				2.37
Winnsboro	Broad																																
Winthrop College	Catawba			T.		T.	.03	.30										T.	.05	.23		1.44	.03		.22				1.06	.40		.06	3.88
Yemassee‖	Combahee							.05		.15										.09		.58				.08				.96			1.91
Georgia.																																	
Abbeville‖	Ocmulgee				*	.04	*	.40							T.					.10	*	.72		*	.24				*	.66			2.16
Adairsville‖	Coosa			.02											1.12						.96	T.	T.		.32				.40				2.82
Albany‖	Flint						*	.72											*	.14	*	1.72	.02	*	.25				.02	.52			3.39
Allapaha‖	Allapaha							.17														.64				.44			*	.87			2.12
Americus‖	Flint																																
Athens‖	Oconee					*	.02							*	.70				*	.18	*	.76		*	.51			*	1.03	.47	*	.08	3.75
Atlanta	Chattahoochee		T.			T.	.92								.05				.32		.86	.03	T.	.41	.02				.87		.01		3.49
Augusta	Savannah					T.	.30	.07							T.				.02		.23	.74		.07	.38				1.37	T.	.05		3.23
Bainbridge‖	Flint							.25												.15		T.	1.00		.30	T.			T.	.53		T.	2.23
Barnesville	do						.73	.15							.04					.07	.02	.69	T.	T.	.26				1.84	.02			3.82
Blakely	Chattahoochee						.40	.10											1.00			T.		T.					1.14		T.		2.64
Brunswick	Altamaha							.18														.40	T.						.35				0.93
Butler‖	Flint																		*	.14	*	.74		*	.34			*	2.54	.30	*	.14	4.20
Camak‖	Savannah						*	.17													*	.90	T.	*	.45			*	1.30	.90	*	.15	3.87
Canton	Coosa																																
Carlton‖	Savannah						*	.62						*	.06				*	.17	*	.97		*	.52			*	.98	.61	*	.07	4.00
Carrollton	Chattahoochee																																
Clayton	Savannah	T.				T.	1.50	.84					.09			T.			.35		1.05	T.		.10					.95		T.		4.88
Columbus‖	Chattahoochee						.02	.50							.05					.01		.50	T.		.51				1.39	.10			3.08
Covington‖	Ocmulgee					*	.05	.70						*	.06				*	.23	*	1.00		*	.75				1.50	.15	*	.09	4.53
Cuthbert‖	Chattahoochee						.70															.59			.27				1.10	.26			2.92
Dahlonega	do	.02	.01				1.59	.12							.10				.16	.01	*	.91	T.	.10	.38				.67				4.07
Diamond	Tennessee	.04	.10			T.	1.30	.24						*	.12	T.			.37		*	.19		.22					.90	.20			3.68
Douglas	Satilla							.29											.04	T.	.05	.63			.74			.03	.68	.06			2.52
Dublin‖	Oconee						*	.38											*	.20	*	1.14			.38				.50	.78			3.38
Dudley	do						T.	.05							T.				T.	.48		1.05			.25				.98			.25	3.06
Eastman‖	Ocmulgee						*	.84											*	.06	*	1.09	T.	.20				*	.41	.38			2.98
Eatonton	Oconee						.56													.73		1.00		.08	.28				2.00	.11			4.76
Elberton	Savannah	T.					T.	.70							.13					.30		.90		T.	.62				1.30	.45		.10	4.50
Experiment	Chattahoochee					.61									.18				.09	.10	T.	.95	T.	.01	.42				1.70			.03	4.09
Fort Gaines‖	do						T.	.60												T.		.90	T.		.01				1.10	.10			2.71
Gainesville‖	do					*	.10	1.08							.05				*	.90		*	.07	*	.70				.47	.20			3.57
Gillsville	Oconee						.72	.12											.37	T.		.87		T.	.15				.95				3.18
Glennville‖	Altamaha					T.	.05		.10										.01		.51	T.		.22					.58				1.47
Gore	Coosa						1.23	.08							.09				.30		.05	.45	T.	.05	.04				.19				2.48
Greensboro‖	Oconee						*	.72						*	.14				*	.32	*	.70		*	.62			*	1.80	.38	.08	.06	4.82
Griffin‖	Chattahoochee		T.			*	.03	.73							.10				*	.21	*	.96	.03	*	.40			*	1.65	.10		T.	4.21
Harrison	Ogeechee						.45								.07				.05			1.05			.25				1.30		.15		3.32
Hartwell	Savannah																					.35		.02	.04				1.12		.04		1.57
Hawkinsville‖	Ocmulgee													*	T.				*	.30		*	T.	*	.30			*	.90	.18			1.68
Helena	do					T.		.34											.01	.04		.33	T.		.17				.89	.02			1.80
La Fayette	Tennessee			.14			1.73											.07	.41		.21	.28								.19			3.02
Lisbon	Savannah						*	.55						*	.08			T.	.05	.06	*	.92		T.	.53				1.70	.33	*	.12	4.34
Lost Mountain	Chattahoochee						1.30												.57		.10	.57		.20	.27				.79				3.80
Louisville	Ogeechee						.34												.14		1.15		.03	.11					1.25		.11		3.13
Lumber City‖	Ocmulgee						*	.08											*	.02	*	.58		*	.18				*	1.62			2.48
Lumpkin‖	Chattahoochee					.80							.11						.29		.64	T.		.32				1.33	.32				3.81
Macon	Ocmulgee						.41								T.				.07		.90	.02		.10	.68				2.08		.19		4.45
Marshallville‖	Flint						*	.47							.08				T.	.12		.83	.01		.30				1.65	.50		.03	3.99
Mauzy	Suwanee							.09											T.			1.10			.35				1.20				2.74
Milledgeville‖	Oconee			*	T.		*	T.	.47					*	.08				*	.12		.86	T.	.02	.56			*	1.66	.70	*	.08	4.49
Millen‖	Ogeechee							T.												.50		.41			.15				.18	.95			2.19
Montezuma‖	Flint						*	.32							*	.10			*	.16	*	.28		*	.38			*	1.12		.36	.08	2.80
Monticello‖	Ocmulgee						.03	1.00							.05				*	.08	*	.87	.04	*	.36			.03	1.90	.32		.12	4.89
Morgan	Flint																																
Newnan‖	Chattahoochee	T.	T.			*	.07	1.25											*	.33	*	.85	T.	T.	.42			*	.70				3.62
Oakdale‖	do					*	.15	1.38											*	.61	*	1.11	T.	*	.53				*	.90	*	.02	4.70
Point Peter	Savannah						*	.60							.08				*	.30	*	.97		*	.60				1.37	.36		.10	4.38
Poulan	Suwanee						.43												.08		.62		T.		.61				.72				2.46
Putnam	Flint						.60													.60					.35				2.30				3.85
Quitman‖	Suwanee						*	.55											*	.10	*	1.20		*	.12	.48			*	.42			2.87
Ramsey	Coosa						.85	.22							.15				.50			.70	.10	.18	.07				.20				2.97
Resaca‖	do	T.					*	1.00							T.				*	.28	*	.52	T.	*	.12				T.				1.92
Rome‖	do		T.				T.	1.32						*	.04				*	.28	*	.52	.05	*	.54				.42	T.			3.17
St. George	St. Marys																																
St. Marys	do							T.	.14			T.										.35			T.			T.	.27				0.76
Savannah	Savannah					T.	T.	.03	T.	T.									T.	.04	T.	.49			.01			.29	.16		.01	1.03
Statesboro‖	Ogeechee					T.	.08		.07					T.							.33	.03			.15			.09	1.22				2.06
Talbotton	Chattahoochee						.86													.12	.80		T.	.68				2.30				4.76

TABLE 2.—*Daily precipitation for January, 1910. District No. 2*—Continued.

Stations.	River Basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Georgia—Cont'd.																																	
Tallapoosa	Coosa							1.40																	T.				.05				1.45
Thomasville	Ocklockonee					T.	.10							T.					.07		1.44	.02		T.	.58			T.	1.01				3.22
Toccoa	Savannah						.15	.90							.05				.15			.90		.32					.50	.40		.08	3.45
Valdosta	Suwanee							.01												T.		1.12			T.	.42				.50			2.05
Valona	Ogeechee							.15													.33	T.	T.		T.		.15		.05				0.68
Washington	Savannah						*	.63						*	.08	T.			*	.30	*	1.03	T.	*	.43			*	1.42	.68		T.	4.57
Waycross	Satilla						*	.22													*	.37		*	.04	.28			*	.55			1.46
Waynesboro	Savannah							.22												.07	*	1.80			.24				*	1.50			3.83
West Point	Chattahoochee					*	.04	1.06						*	.12				*	.18	*	.90	.01	*	.16			*	1.64	.12			4.23
Woodbury	Flint						*	.81													*	.92	.04		.22			*	1.42				3.41
Florida.																																	
Apalachicola	Coast																					.26							.56				0.97
Arcadia	Peace Creek					.05		T.			.08				T.	.02						.61						.57			T.	1.80
Archer	Waccasassa							.62						.03							.07	.11			T.				.45	T.			0.70
Avon Park	Kissimmee							.04	T.	T.				.03								.14	.03		.02	.04				.60			0.93
Bartow	Peace Creek							.04		.03				.03								.14			.15			.53					2.28
Blountstown	Apalachicola						.41												.05			1.14											
Bonifay	Choctawhatchee						.81										1.06		.05		1.06								.60				3.58
Brooksville	Withlacoochee									.45												.50							.67				1.62
Carrabelle	Coast						.65															.70							.40	.35			2.10
Cedar Keys	do							.63	.08													.65	.02							.01	.40	1.79
Clermont	Lake																					.29							.60				0.80
De Funiak Springs	Choctawhatchee						.55												.25		.68	.20		.05				.04	.60		.15		2.52
De Land	St. Johns						.03	T.		T.					T.						T.	.17							.27			.10	0.57
Eustis	Lake						T.															.22							.22			.16	0.60
Federal Point	St. Johns						T.	.14	.08	.02				.01								.26					.02		.30			T.	0.83
Fenholloway	Fenholloway							.77														.80							1.62			.13	3.32
Fernandina	Coast							.02	.06	.04				T.								.43	.02						.34	T.			0.91
Fort Meade	Peace Creek																					.27			T.				.65				0.92
Fort Myers	Caloosahatchee							T.													.05	.01			T.				1.58		T.	T.	1.64
Fort Pierce	Indian						.04			.09				.20								.01							1.58				0.57
Gainesville	Lake							.22	T.	.32										.02		.52			T.				.34			.02	1.44
Grasmere	do							T.						T.							.10	.20							.40			.15	0.85
Hilliard	Nassau									.02												.03			.01				.06				0.12
Huntington	St. Johns					.01	.01	.01	T.					.15								.60							.20			.01	0.99
Hypoluxo	Lake								.43						.37						.21	.15								.27			1.43
Inverness	Withlacoochee							.36														.50			.18	.14							1.18
Jacksonville	St. Johns						.08	.07	.28	.05										.04	.04	.17			.06	T.			.27				1.06
Jasper	Suwanee						2.00														.51								.90				3.41
Johnstown	do							.06													.54				.05				.55				1.20
Jupiter	Coast					T.		.19	.45		T.	.03		.08	.01				.01	.01	.28	.06							.35				1.47
Key West	do		T.	T.			.05			.02				T.								.05			.18				.32				0.62
Kissimmee	Kissimmee						T.														.14	.35							.80				1.29
Lake City	Suwanee							.24	T.	.10												.22			T.				.65				1.21
Live Oak	do							.25		.10												.52											0.87
Macclenny	St. Marys									.21																			.70				0.91
Madison	Suwanee							.18													1.06	.01		T.	.09				.23	.27			1.84
Malabar	Indian						.15	.05													.43	.13								.26		.08	1.10
Manatee	Manatee					T.																.40			.31				.80			.04	1.55
Marianna	Apalachicola						.01	1.16														1.08							.30	.09	.03		2.80
Merritts Island	Indan						T.	T.		T.		T.	.07						.13		T.	.35							.15			T.	0.57
Miami	Coast			T.			T.		.08		.45		T.		T.						T.	.93							T.				1.46
Middleburg	St. Johns										1.70																		.65				2.35
Milligan	Yellow																																
Molino	Escambia					T.	.38												T.		.80								.45				1.63
Monticello	Aucilla																				1.50								.50				2.00
Mount Pleasant	Apalachicola																																
Newport	St. Marks							T.		T.				T.								1.00		T.					.40				1.40
New Smyrna	Coast																					.37								.42			0.79
Ocala	St. Johns				.14		T.																.42		T.				.54		.09	1.19
Orange City	do																							.08					.74				0.82
Orlando	do							T.		T.		.11										.26							.54			.10	1.01
Pensacola	Coast					.15	.06										T.	T.			.34			T.				.14	.37				1.06
Plant City	Hillsboro																					.33							.89				1.22
Rockledge	Indian													.20															.15				0.35
Rockwell	Withlacoochee								T.													1.05		.20	.10				.52			.38	3.15
St. Andrew	Coast					.92	.08														.19	1.37	.04										2.60
St. Augustine	do							T.	.24													.32							.25				0.81
Sand Key	do																																
St. Leo	Withlacoochee							.07		.05				T.								.48		.06					.52	.02		.40	1.60
Satsuma Heights	St. Johns							.04	.04					.03								.19							.18				0.48
Switzerland	do							.22	.82					T.						T.	.21								.16				1.41
Tallahassee	Ocklocknee							.06												.03		1.35				.10			.08	.25			1.87
Tampa	Coast					T.	T.	.11		.03				T.								.31		.05					.31				0.81
Tarpon Springs	do							.20				T.										.70		.12					.34			.05	1.41
Titusville	Indian																					.25							.27			.03	0.55
Wausau	Choctawhatchee						.46												.06		.80	.83							.44		T.	.07	2.66
Alabama.																																	
Alaga	Chattahooches						T.	.52												.14		1.04		.02					.14	.42			2.28
Anniston	Coosa	T.				T.	1.31							T.	.10				.39		.72	.01	.43	T.				.66				3.62
Ashville	do	T.		T.		T.	2.53											T.	.45		.45	.28		T.	.20				.50				4.41
Auburn	Tallapoosa						1.14	.07						.01					.04	.11	.07	.45		.01	.61				1.90				4.40
Benton	Alabama							.86												.21		.68			.32				1.49				3.56
Bermuda	Escambia					T.	1.12												.09		.78	.05		.01					2.00				4.06
Birmingham	Black Warrior	T.	T.			.35	1.44							.01					.33		.88	T.		.22					.50				3.75
Calera	Coosa						1.09	1.00						.03						.25		.60		.08					.88				3.81
Camp Hill	Tallapoosa						.90	.10											.40	.30	.20	.60		T.		.20			1.20				3.90
Cedar Bluff	Coosa						1.91					.10							.50		.43			.42									3.36
Citronelle	Alabama	T.				.17	.96	T.	.10		.01			T.					.05	.04	1.00	.03		.02	T.	T.			.65				3.03
Clanton	Coosa						.20	.85						.07					.35	.28		.41	T.		.21				1.18				3.25
Cochrane	Tombigbee																																
Cordova	Black Warrior		T.			.53	.76												.35		.30												1.94
Cullman	do		T.			.54	1.54							T.	.24				.43		.73	.01		.03	.01								3.53
Dadeville	Tallapoosa						T.	.70						T.						.29		.90	T.		.22				.89	.18			3.18
Daphne	Coast					T.	1.00	T.											T.		.27	T.					.05	.57				1.89
Demopolis	Tombigbee						.90	.30						.08						.24		.52		.04				1.40				3.48
Eufaula	Chattahoochee						.04	.92						T.						.36		.56		.28				1.20	.36			3.72
Evergreen	Escambia						.80	1.10													.05							1.65				4.60
Fayette	Tombigbee																																
Flomaton	Escambia					T.	.70												.03		.75	.18					T.	.80	T.			2.46
Fort Deposit	do																																
Gadsden	Coosa						.12	1.88						.02						.32		.64	.02		T.				.54				3.54
Goodwater	do							.92											.10			.80			.93				.73				3.48
Greensboro	Black Warrior						1.07	.43											.21			.50		.02					1.07				3.30

TABLE 2.—*Daily precipitation for January, 1910. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alabama—Cont'd.																																	
Greenville‖	Escambia					.43																.53							.64				1.60
Hamilton	Tombigbee					1.55	1.30							.14	.14				.64		1.13											4.90
Highland Home	Escambia						.49								T.				.12	.13	.10	.59		T.					1.30				2.73
Livingston‖	Tombigbee						2.00													.50		.49							.56				3.55
Lock No. 4	Coosa						2.00	.05							.05				.25		.40	.25		.10	.31				.65				4.06
Lucy	Chattahoochee						.70	.24											.03		T.	1.30							1.18				3.45
Maple Grove	Coosa	T.				.12	1.81							.07				T.	.37		.53	T.	T.	.31				.37					3.58
Mentone‖	...do						.70	1.35														1.10	T.	T.									3.15
Milstead‖	Tallapoosa						.84	.80												.14		.50				.36			1.46				4.10
Mobile	Coast				T.	T.	.83								T.				.15		.33			T.				.61	.71				2.63
Montgomery	Alabama	T.				T.	.99								T.				.14		.55	T.		.20				.12	1.21				3.21
Newbern	Black Warrior					.02	1.30							.04				.01	.21		.46	T.		.45				1.25					3.74
Oneonta	...do		.06			.26	2.30												.55		.70	.26		.03	.10	.01	T.		.18				4.45
Opelika‖	Tallapoosa						T.	.25												.22		.45			.47				1.45	.42			3.26
Ozark‖	Coast							.50													.60								.50	T.			1.60
Prattville	Alabama						.52												.12		.50	T.		T.	.39				1.52				3.05
Pushmataha‖	Tombigbee					.15	2.00	.35												T.		.78							*a*				4.78
Selma‖	Alabama						T.	.82											.40	.12		.26	T.		.32				1.06	.20			3.18
Spring Hill	Coast					T.	.71												T.		.61							.18	.94				2.44
Talladega	Coosa						1.73	.07							.07				.40		.36	.46		.69	.17	.02			.80				4.17
Tallassee‖	Tallapoosa						.04	.67							.03					.23		.68			.45				1.00	.42			3.52
Thomasville‖	Tombigbee		T.				.41	.65							.03				T.	.10		.55							1.85				3.59
Troy	Escambia						.33							.05					.15		.62	T.							2.47				3.62
Tuscaloosa‖	Black Warrior						1.70	.43							.06				.02	.15		.55		T.					.24				3.15
Tuskegee	Tallapoosa						.77												.12		.04	T.		.80				1.44					3.17
Union Springs‖	...do						T.	1.30							T.					.20		1.30			.40				1.60				4.80
Uniontown	Black Warrior						1.42											.26			.52				.02				1.03				3.25
Valley Head	Coosa	T.			T.	.45	1.40								.15				.45		.45	.15	T.	T.									3.05
Wetumpka‖	...do							1.06												.18		.62	T.		.97				.96				3.79
Mississippi.																																	
Aberdeen‖	Tombigbee					.26	2.10	.06							T.				.22	.26		1.48											4.38
Agricultural College	...do					.70	1.35							T.	.20				.40		1.42												4.07
Bay St. Louis	Coast				T.	1.31	.43												.02		.92							.12	.83				3.63
Biloxi	...do		T.			.51	.55												T.	.01	.70							.16	1.16				3.09
Booneville	Tombigbee					1.03	2.02						.28						1.28		.68												5.29
Brookhaven‖	Pearl					.11	1.42	.05							.03					.08		1.39							.23				3.31
Columbia‖	...do					.12	.70	.16												.08		1.80							1.14				4.00
Columbus‖	Tombigbee				T.	.16	1.20	.12							T.					.32		1.10		T.					T.				2.90
Crystal Springs‖	Pearl					.30	1.49	.04							.03					.12		1.73											3.71
Edinburg	...do					.32	1.87	.04							.13					.22		1.02											3.60
Enterprise‖	Chickasawhay					.38	.92	.48							T.					.06		.80							.50				3.14
Fulton‖	Tombigbee					.66	2.08												.64	.32	.12	.94											4.76
Hattiesburg‖	Leaf					.04	.30	.52												.08		.24							.90				2.08
Haslehurst‖	Pearl					.20	1.68								.09					T.									1.67				3.64
Jackson	...do		.01		.03	.37	1.55							T.	.02				.18		1.18								.04				3.38
Lake‖	...do				.26		.55															1.10						.21					2.12
Lake Como	Leaf					.35								T.			.90												.35				1.60
Laurel	...do					.25	.83								T.				.04		1.10	T.							.80				3.02
Leakesville‖	Chickasawhay					.51	2.11	.56												.06		.87							1.50				3.63
Louisville	Pearl					.86	1.55								.07				.21		.76												3.45
McNeill	...do					.25	.68														.72								1.16				2.81
Macon‖	Tombigbee						1.20	.10							T.					.28		1.02											2.60
Magnolia	Pearl				.30	T.	1.15												.09		1.04								.09				2.67
Meridian	Chickasawhay						.72	.97						.01					.07		.74							.25	.08				2.84
Merrill‖	Pascagoula				.60	1.20	.48													.06		1.00							.22				3.56
Monticello	Pearl				.01	.15	1.10								.04				.04		1.24	.01							.18				2.77
Okolona‖	Tombigbee					.68	2.05	T.							.15				.40	.22		1.18											4.68
Pascagoula	Coast																																
Pearlington	Pearl					.67	.58											T.		.82							.10	1.08					3.25
Porterville	Tombigbee					.78	1.50	T.							T.				.15		.90								.18				3.51
Shubuta‖	Chickasawhay		.04			.56	2.04	.40							.02				T.	.02		.92							1.04				5.04
Waynesboro‖	...do					.50	1.85	.60																					.98				3.93
Woodland	Tombigbee					.63	1.18							.06	.10				.21		1.74												3.92
Louisiana.																																	
Pearl River	Pearl					.24		.04	.62											.06		.80			T.			.04	.50				2.3

a = ‖ 1.50.

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 2, South Atlantic and east Gulf States.*

Date.	Virginia.								North Carolina.																		Charleston, S. C.	
	Lynchburg.		Norfolk.		Richmond.		Saxe.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern.‖		Raleigh.		Reidsville.		Salisbury.		Wilmington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	47	16	49	28	49	22	55	20	52	32	48	20	50	23	53	31	68	19	52	26	56	24	70	33	58	32	61	40
2	68	45	64	48	67	49	69	42	65	50	58	39	70	50	57	52	69	36	67	50	68	45	68	24	63	52	61	49
3	71	44	69	46	70	48	72	46	71	51	68	45	75	51	64	52	73	42	71	50	73	46	73	46	71	50	74	51
4	44	22	46	24	48	22	66	31	58	37	60	25	58	39	55	34	53	39	58	29	62	33	63	40	56	33	58	43
5	28	20	34	24	27	20	32	20	37	26	42	18	39	27	60	38	67	29	31	24	37	22	60	34	58	32	43	36
6	46	28	68	32	46	27	44	25	68	29	65	34	73	32	66	59	74	36	68	31	47	24	51	26	71	58	69	42
7	46	24	68	31	53	28	51	35	54	27	62	38	65	34	65	38	60	54	65	29	52	25	61	32	68	36	64	39
8	37	19	38	28	37	21	40	13	42	22	43	23	43	22	45	36	46	26	41	23	44	17	42	18	48	28	51	34
9	44	18	38	31	43	25	48	18	49	27	40	30	50	31	54	35	44	32	47	32	49	21	50	22	48	34	54	40
10	35	19	33	25	33	21	41	14	34	23	34	22	40	24	37	29	38	25	35	23	37	18	41	18	39	28	44	34
11	46	14	41	25	42	20	45	10	43	24	35	17	46	17	42	30	46	18	44	22	49	20	34	14	48	22	51	32
12	49	24	48	29	50	27	48	16	53	28	45	20	51	19	48	31	58	19	54	28	58	25	53	22	59	26	58	34
13	40	35	45	37	42	36	45	30	53	40	50	30	57	28	48	34	60	25	48	34	44	33	48	34	55	36	61	45
14	45	32	53	36	40	34	44	30	58	34	54	37	67	43	58	40	65	38	56	40	56	36	56	38	68	45	69	49
15	44	29	38	28	40	28	43	25	43	29	48	32	57	27	40	33	53	30	43	31	45	27	46	25	46	34	50	40
16	52	24	45	28	48	27	52	15	48	26	45	23	54	25	46	32	52	23	50	28	44	25	50	20	52	28	50	34
17	41	31	47	32	42	33	48	26	49	40	50	23	53	34	53	31	60	25	48	36	40	36	45	38	59	34	56	42
18	56	41	64	43	63	40	61	40	64	43	60	40	70	47	61	51	65	38	66	47	59	39	52	41	67	52	66	53
19	53	33	50	38	50	36	55	30	54	36	58	37	65	34	56	38	55	38	53	35	66	33	58	31	56	42	59	44
20	55	30	57	35	56	30	55	45	53	36	60	28	58	28	58	39	60	26	55	34	53	31	54	20	61	34	59	42
21	50	36	60	43	56	44	45	27	52	30	60	31	58	40	63	45	61	42	57	32	52	38	52	37	62	37	60	34
22	36	27	43	32	39	32	42	22	34	25	45	26	40	28	45	35	52	28	35	28	38	26	37	25	38	29	40	29
23	42	25	47	28	48	27	47	21	44	23	50	33	51	21	48	36	53	22	46	24	43	20	45	21	52	28	48	32
24	43	34	55	37	47	35	44	31	39	35	48	35	45	37	56	40	59	29	43	37	38	35	51	26	60	35	59	41
25	43	30	40	33	41	32	45	32	49	26	48	22	50	31	49	37	50	35	44	31	49	28	42	30	50	36	56	39
26	43	27	45	28	42	28	48	24	54	34	62	40	59	25	56	34	57	26	53	28	54	30	64	41	55	32	59	38
27	59	40	62	43	61	40	63	40	63	44	56	31	69	46	63	52	69	38	64	46	64	40	55	32	68	50	67	50
28	42	31	48	38	43	33	55	24	48	32	56	36	50	43	62	46	65	35	48	38	53	32	50	28	66	46	60	45
29	36	31	51	35	44	30	40	32	46	32	61	29	51	35	62	41	61	36	45	32	40	30	54	36	57	40	54	40
30	45	24	57	30	55	25	56	22	57	33	60	30	62	28	58	34	61	26	59	30	53	23	56	28	59	36	59	43
31	41	26	51	29	45	28	54	29	47	27	53	38	54	33	58	37	64	43	49	27	49	31	54	31	62	34	61	39
Mns	46.0	29.8	50.2	33.0	47.3	30.5	50.1	27.1	51.0	32.3	52.4	30.1	55.8	32.3	54.4	38.7	58.6	31.5	51.5	32.4	50.7	29.5	52.7	29.4	57.4	36.7	57.5	40.8

Date.	South Carolina.														Georgia.													
	Columbia.		Conway.‖		Georgetown.		Greenville.‖		Newberry.		Society Hill.		Trial.		Adairsville.‖		Albany.‖		Atlanta.		Augusta.		Dahlonega.		Macon.		Savannah.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1	60	40	60	27	60	29	53	23	57	34	56	30	63	23	56	16	67	24	57	41	62	39	46	39	60	39	64	40
2	66	55	70	44	60	49	70	39	65	47	65	51	67	51	65	43	75	43	62	52	70	56	54	45	69	51	70	45
3	75	51	75	50	67	48	80	50	73	50	70	46	74	51	70	51	73	50	67	56	74	52	66	53	72	53	72	52
4	59	44	60	44	60	48	54	44	59	45	52	28	64	43	62	40	73	44	62	44	65	48	63	45	69	42	63	44
5	44	31	65	34	57	33	35	31	45	33	48	31	51	31	47	38	66	51	45	34	51	34	51	33	55	42	52	41
6	74	34	73	33	70	48	51	35	53	31	70	31	75	23	52	30	75	52	63	24	75	36	49	35	73	42	72	42
7	56	32	52	50	60	42	55	30	47	31	48	25	68	38	31	17	52	31	31	18	57	30	49	19	44	28	62	35
8	44	26	51	27	60	41	56	23	43	22	43	34	50	30	43	17	55	26	43	22	47	27	40	18	48	23	51	31
9	51	36	51	34	59	38	66	22	50	28	48	26	54	33	45	20	52	32	44	26	52	32	44	19	50	28	56	39
10	39	28	45	28	48	30	54	24	40	26	36	19	45	28	41	21	52	30	43	25	45	28	40	20	47	28	47	33
11	45	20	51	20	48	26	55	16	46	16	40	19	51	16	46	21	59	30	48	27	50	22	44	18	51	25	55	29
12	60	22	62	21	57	28	65	16	59	19	52	31	62	20	56	23	68	37	58	38	61	24	54	21	62	27	62	37
13	62	44	61	32	63	38	53	23	57	37	60	26	71	34	62	25	71	42	60	47	66	38	54	34	66	38	66	49
14	65	39	70	42	70	48	66	38	62	42	62	32	77	47	42	36	67	48	57	32	64	40	52	32	61	35	70	46
15	43	32	50	38	60	39	44	26	47	30	47	27	57	35	37	31	57	30	44	30	49	33	43	28	48	30	51	37
16	47	28	54	26	52	30	58	22	70	24	43	37	54	24	44	23	55	32	43	31	52	28	42	22	52	28	52	34
17	57	42	62	35	60	38	48	25	52	38	60	37	65	34	.....	26	70	33	58	39	63	41	47	36	63	39	66	42
18	69	50	73	43	70	48	59	40	68	42	69	32	70	57	.....	.....	72	44	59	37	71	47	55	42	67	46	70	52
19	58	37	57	40	66	43	64	29	57	28	54	31	60	36	61	.....	70	38	54	33	60	36	54	34	58	35	59	42
20	58	34	62	29	58	34	54	29	57	29	58	49	61	28	51	28	61	38	53	39	62	33	51	31	60	32	62	41
21	57	31	56	41	60	41	41	31	54	36	55	27	60	36	34	33	44	41	44	21	58	29	47	26	54	28	61	31
22	37	25	41	28	48	28	42	22	36	24	52	31	40	25	35	21	48	28	35	21	37	25	27	17	41	28	42	29
23	49	26	45	24	54	29	41	22	51	24	48	37	51	22	38	23	54	26	38	31	49	25	33	17	47	29	50	32
24	43	37	58	32	61	36	55	27	45	36	45	38	51	33	43	33	57	35	41	32	46	36	49	31	46	39	56	43
25	53	36	53	32	54	45	58	28	46	32	49	28	56	33	49	27	60	32	53	28	54	34	51	28	51	30	57	41
26	59	33	50	27	60	32	59	28	62	29	55	45	63	28	63	29	69	34	60	40	62	32	56	30	64	33	62	36
27	65	48	71	40	61	48	53	33	64	46	64	39	69	48	60	34	68	42	58	46	64	48	58	45	62	48	68	50
28	51	37	65	40	62	27	38	35	54	36	53	35	60	44	44	37	66	54	52	35	52	38	53	35	50	40	60	43
29	50	36	52	39	58	36	56	32	50	32	49	31	56	35	51	29	60	35	51	31	53	38	46	30	54	35	54	40
30	60	37	65	27	70	38	58	27	61	31	53	42	64	33	55	31	67	37	55	36	63	36	51	25	62	36	62	43
31	50	32	62	40	65	42	57	31	56	41	52	25	58	43	.....	30	59	43	44	28	51	34	47	29	52	35	60	42
Mns	55.0	35.5	58.8	34.4	59.9	38.1	54.8	29.5	55.0	32.9	53.4	33.4	60.2	34.3	49.4[a]	29.0[b]	62.6	37.5	51.0	33.7	57.6	35.5	48.9	30.2	56.7	35.2	59.8	40.0

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 2*—Continued.

Date.	Georgia.						Florida.																			
	Thomasville.		Waycross.‡‡		West Point.‡‡		Avon Park.		Fort Myers.		Gainesville.‡‡		Jacksonville.		Jupiter.		Key West.		Miami.		Orlando.		Pensacola.		Tallahassee.‡‡		Tampa.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	67	32	66	22	59	27	73	31	65	35	64	28	62	37	70	43	66	55	70	43	69	27	63	55	63	37	64	37
2...	74	45	74	29	71	43	80	40	73	43	71	36	69	43	74	53	69	60	75	54	74	35	68	55	68	40	70	44
3...	76	50	74	43	76	45	80	44	73	50	73	40	71	45	75	56	70	62	78	59	77	40	72	59	71	47	73	49
4...	74	46	77	42	70	43	84	47	77	53	75	42	74	48	76	66	74	65	79	64	78	44	64	57	71	46	75	53
5...	66	53	58	42	59	46	78	51	77	55	66	54	53	48	75	67	76	67	75	66	79	54	65	59	68	48	71	56
6...	74	48	79	47	69	49	82	62	77	65	77	54	73	52	76	67	77	68	80	68	82	62	68	33	71	58	73	63
7...	46	28	50	40	35	22	73	56	77	58	54	46	63	40	82	65	80	66	84	66	74	57	44	29	46	32	65	53
8...	56	25	56	27	48	20	77	53	75	55	52	38	55	35	76	66	78	66	80	63	73	52	51	28	56	26	74	51
9...	57	39	59	29	48	22	71	58	71	60	57	41	58	42	75	58	72	65	80	60	70	54	56	35	57	28	61	47
10...	56	32	55	32	46	26	72	48	72	50	59	39	54	36	70	58	72	62	72	57	70	43	58	34	56	32	68	43
11...	62	34	61	29	52	22	69	57	73	52	62	40	54	40	70	64	72	64	71	65	69	57	58	40	61	34	68	47
12...	68	41	68	30	62	25	75	54	73	53	66	42	61	47	73	64	73	64	75	65	72	50	59	47	67	36	73	49
13...	68	42	74	39	66	30	74	59	74	57	72	47	70	53	76	68	75	64	80	65	73	55	62	52	68	45	74	57
14...	69	43	74	47	51	40	74	54	75	58	75	67	73	56	71	62	74	66	78	65	73	52	62	38	69	50	72	58
15...	52	31	54	32	44	32	72	51	74	53	65	43	60	38	70	61	73	65	80	66	70	48	54	33	56	32	66	46
16...	59	31	60	32	52	27	72	45	72	46	62	38	58	39	71	49	70	62	76	55	73	45	55	39	58	34	69	44
17...	70	39	80	34	63	30	74	47	74	50	74	42	68	42	72	64	74	65	75	61	74	43	64	48	67	41	71	49
18...	72	44	74	36	69	39	77	48	76	53	75	46	70	51	74	64	77	66	77	66	77	45	72	53	69	42	73	55
19...	60	36	60	43	58	31	76	55	76	53	64	56	63	48	80	59	78	65	80	56	77	54	60	42	61	45	74	54
20...	60	35	67	32	59	31	74	52	74	54	70	44	68	45	75	66	77	66	79	66	72	47	64	50	62	41	73	52
21...	56	33	49	40	41	35	68	52	71	57	54	50	61	37	76	52	75	62	81	60	74	51	47	39	46	42	63	46
22...	48	29	48	28	43	24	58	31	59	43	52	28	49	34	60	40	66	58	64	44	67	34	51	35	48	29	55	42
23...	53	26	53	23	47	27	66	32	64	38	58	27	56	35	65	42	66	56	.....	42	64	28	60	46	54	30	62	37
24...	65	44	59	27	46	34	68	34	62	47	66	30	60	47	71	48	71	56	.....	46	67	45	67	49	62	36	63	49
25...	59	37	61	41	57	26	68	41	68	50	56	43	51	43	68	49	67	60	.....	50	68	44	58	42	58	39	62	47
26...	67	34	67	31	66	31	74	43	69	47	66	39	65	39	72	46	71	57	75	50	72	33	64	54	63	36	67	40
27...	72	52	71	35	62	36	78	42	72	45	73	42	72	49	74	49	72	63	78	50	77	43	64	60	72	40	70	55
28...	66	40	65	54	45	43	76	52	74	54	70	59	69	45	76	57	75	69	79	54	75	56	62	45	64	56	68	51
29...	59	36	65	37	57	31	62	42	63	49	65	39	56	41	63	46	70	58	79	50	69	39	58	43	59	35	59	44
30...	65	37	64	39	64	31	71	38	68	45	62	35	64	42	68	49	73	58	79	55	68	31	63	52	61	37	63	42
31...	61	40	61	47	51	36	76	48	70	50	71	47	66	46	75	54	73	62	79	56	69	41	63	45	60	49	68	50
Mns	63.1	38.1	64.0	35.8	56.0	32.4	73.3	47.3	71.5	50.9	65.4	42.6	62.8	43.3	72.5	56.5	72.8	62.6	77.1[c]	57.4	72.5	45.5	60.5	45.0	61.7	39.5	68.0	48.7

Date.	Alabama.																Mississippi.							
	Anniston.		Bermuda.		Birmingham.		Eufaula.‡‡		Mobile.		Montgomery.		Tuscaloosa.‡‡		Uniontown.		Columbus.‡‡		Hattiesburg.‡‡		Jackson.		Meridian.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	63	46	66	36	64	48	62	25	60	48	65	47	67	24	.....	.....	.....	31	74	43	71	56	69	53
2.....	67	56	73	42	67	56	68	40	65	50	71	51	69	53	73	45	.....	53	72	45	75	56	71	54
3.....	72	52	70	45	69	50	70	47	70	52	72	51	73	54	73	57	.....	56	74	52	72	59	70	56
4.....	66	49	73	44	67	44	68	42	71	51	70	52	72	45	72	51	.....	44	76	48	70	51	70	48
5.....	56	49	70	58	62	55	66	42	68	61	70	54	66	46	69	57	.....	44	74	52	68	45	67	56
6.....	62	23	74	35	59	21	72	52	67	32	72	26	42	39	66	28	.....	35	70	48	45	27	56	23
7.....	32	16	39	21	31	15	38	24	43	26	38	20	33	17	37	19	.....	15	42	20	39	19	35	18
8.....	48	16	51	18	45	18	49	19	54	27	49	22	43	17	47	21	.....	16	55	20	52	17	46	19
9.....	46	21	52	23	46	27	51	23	55	33	51	28	48	19	52	21	.....	18	58	30	52	24	48	24
10.....	47	21	55	27	47	24	49	27	57	35	49	30	49	19	49	25	.....	20	60	28	59	27	49	28
11.....	53	30	61	27	54	32	55	26	62	39	56	30	57	27	55	28	.....	24	56	26	65	27	58	28
12.....	62	39	67	32	62	41	61	29	65	45	64	35	63	29	64	31	.....	25	70	26	72	39	67	40
13.....	63	46	70	36	64	52	65	30	68	51	68	43	66	33	67	40	.....	35	73	40	73	55	68	53
14.....	61	33	58	36	53	33	58	37	61	36	58	33	40	38	62	37	39	36	58	38	62	35	55	34
15.....	40	25	50	27	38	31	47	27	54	34	47	30	43	32	48	30	45	32	60	28	51	29	48	30
16.....	51	25	60	32	52	32	52	28	60	39	54	32	46	33	57	33	55	33	73	32	63	36	60	32
17.....	64	44	70	32	64	48	62	29	66	44	67	42	66	33	68	39	68	36	72	40	72	47	69	48
18.....	63	34	73	49	62	38	66	34	74	48	70	41	63	45	67	49	62	49	65	34	64	43	64	39
19.....	57	29	59	31	55	31	57	31	62	42	59	33	58	30	59	30	61	28	65	32	63	29	59	30
20.....	53	37	59	35	50	42	57	35	64	47	57	40	50	31	53	37	48	30	65	40	53	45	54	41
21.....	43	27	53	35	38	29	43	35	48	39	46	34	40	35	46	34	43	35	50	38	48	35	43	34
22.....	41	25	50	27	43	25	43	25	52	34	45	28	45	17	49	25	49	25	58	28	57	28	50	27
23.....	47	32	64	27	57	37	51	27	66	42	60	34	62	18	64	33	65	25	60	28	69	36	66	39
24.....	44	29	63	.....	48	35	52	32	67	49	54	38	56	36	57	37	64	31	70	32	66	32	62	36
25.....	58	26	66	30	60	30	56	30	61	40	60	30	61	29	60	29	64	28	72	32	70	31	65	31
26.....	64	38	71	34	66	48	65	30	64	50	68	39	69	29	71	40	72	30	75	42	75	52	71	49
27.....	61	39	71	50	62	46	67	35	65	58	64	50	62	42	66	40	65	34	70	54	69	46	63	45
28.....	45	36	66	40	46	37	52	48	62	44	50	40	49	40	60	40	52	36	52	44	58	40	51	36
29.....	55	28	61	28	54	33	55	30	61	40	58	35	55	30	59	35	57	29	65	35	65	35	59	35
30.....	57	34	67	34	58	42	62	34	62	49	66	39	60	30	66	35	58	31	70	32	64	39	63	39
31.....	48	30	59	33	51	31	54	38	63	44	56	39	54	30	59	34	55	26	67	33	65	28	57	32
Means.....	54.5	33.4	62.6	34.1[c]	54.6	36.5	57.2	32.6	61.8	42.9	59.2	37.0	55.7	32.3	59.8[a]	35.3[a]	.....	31.9	65.2	36.1	62.8	37.7	59.2	37.3

Climatological Data for January, 1910.

DISTRICT No. 3, OHIO VALLEY.

FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

The most important weather features during the month were: First, the extraordinary snowstorm which occurred the 5-6th. Snow to the depth of 10 to 16 inches fell over the greater portion of the Ohio Valley, extending from southwestern Tennessee northward and northeastward over the greater portion of all the States bordering the Ohio River, including its affluents; second, the very cold weather which prevailed from the 6th to the 11th, especially the unusually low temperatures registered on several days during that period in northwestern Tennessee, western Kentucky, and the southern portions of Indiana and Ohio. Minimum temperatures of $-10°$ to $-20°$ were reported from those sections—the lowest not only in the Ohio Valley district for the season, but the lowest for a number of years. The ground was frozen and covered with snow during most of the month in the States north of the Ohio River and also over considerable areas immediately south of that river. At the end of the month snow lay on the ground to a depth of 25 inches over parts of western Pennsylvania and 10 to 20 inches over most of West Virginia and the upper Ohio drainage area. The principal damage due to weather conditions during the month was from ice jams and gorges in the Ohio River and its larger tributaries, most of which occurred during the first decade.

The snowfall during the month was from 20 to 38 inches in western New York, 24 to 57 inches in western Pennsylvania, 10 to 36 inches in West Virginia, 10 to 45 inches in Ohio, 20 to 30 inches in western Maryland, 8 to 14 inches in southwestern Virginia and North Carolina, 2 to 14 inches in Tennessee, 5 to 17 inches in Kentucky and Indiana, 2 to 10 inches in Illinois, and trace to 2.5 inches in extreme northern portions of Georgia and Alabama.

TEMPERATURE.

The temperature averaged slightly above normal for the month as a whole. The month opened mild with maximum temperatures during the first several days registering above 60° over the greater portion of the district. A strong barometric disturbance, accompanied by warm rains and followed by heavy snow, moved across the Mississippi and Ohio valleys from the southern Rocky Mountains on the 5th, immediately following which there was a decided change to colder, and quite cold weather largely prevailed until the 12th, during which period the coldest weather of the month occurred. Minimum temperatures of zero and below were registered in nearly all parts of the district, being as much as $-10°$ to $-20°$ in the west-central portion. During the rest of the month there were alternately moderately warm and cold periods of short duration. The coldest of these periods was the 21st–22d and the warmest, the 26–27th. In the latter period maximum temperatures again registered above 60° at many stations.

PRECIPITATION.

The precipitation for the month was above the normal in Ohio, West Virginia, Pennsylvania, eastern Kentucky, northeastern Tennessee, and southeastern Indiana. In the three first-named States the amount for the month takes rank among the greatest for any January in the history of the weather service in those States. It was below normal in Illinois, western Indiana, southwestern Kentucky, and the greater portion of Tennessee and the bordering States to the southward. The amount ranged between 6 and 10 inches over western Pennsylvania, West Virginia, and Ohio, between 4 and 6 inches over most of Kentucky and Tennessee and in northwestern Alabama, and between 2 and 4 inches over the rest of the district. In Illinois and the Wabash section of Indiana, the amount was less than 2 inches at a few stations. Rain or snow occurred almost daily in the eastern portion of the district, especially in the higher altitudes. It was also frequent in other parts of the district, although not so often in the last decade and during the cold weather of the first decade. Precipitation was mostly in the form of snow in the first and third decades, but heavy rains occurred in the second.

General storms of importance passing over this district, or any large part of it, during the month were 7 in number. The first one moved from the southern Rocky Mountain Slope northeastward across the central valleys to the lower Lake region during the 4th to the 7th causing heavy snow, and was probably the most consequential storm of the month. The second storm moved across the central valleys during the 12th to 15th. It also came from the southern Rocky Mountain Slope, but was attended for the most part over this district by rain and mild temperatures, as was the third storm, which occurred on the 17th and 18th, with high southerly winds. Other storms were as follows: During the 21st to 23d, attended by rain and snow; 25th and 26th, attended by high southerly winds and high temperature, but very little precipitation; 28th and 29th, with rain and snow, and the 30th to 31st, with snow. There was considerable sleet over the southern part of the district on the 5th, 6th, and 7th, and over the western portions north of the Ohio River on the 3d, 4th, 5th, 6th, 12th, and 13th. Local thunderstorms occurred in sections of eastern Ohio during the 26th.

RIVER CONDITIONS.

At the opening of the month most of the tributaries of the Ohio, especially those emptying from the north and those at the headwaters, were either frozen up or heavily choked with ice. The main stream was frozen over at many points and was either filled with heavy floating ice or else gorged and jammed in nearly all the reaches from Pittsburg to Cairo. Navigation was practically suspended. Rain and unseasonably warm weather during the first several days of the month caused much thawing and softening of the ice, and the general rise in the river from the melting snow broke up and carried out much of the ice during the first decade. Dangerous gorges, however, formed at numerous points, resulting in considerable damage both in the Ohio river and in many of its tributaries. The principal loss was to river craft, steamboats, coal barges, and wharf boats. The large rises in the water stages and the floods, wherever occurring, were due in nearly every case to the forming and breaking up of ice gorges which held back water that would otherwise have run off without producing high stages.

Two of the ice gorges which formed in the Ohio River were of enormous proportions and exceedingly menacing. All the others in comparison with these were of small matter. One of these jams formed at what is known as Grassy Flats, a place about 25 miles above Louisville, the other at Wolf Creek, a narrow point 85 miles below Louisville.

GRASSY FLATS GORGE.

The ice in the rivers and the several gorges above Cincinnati had broken and was running out by the 5th or 6th. The river remained frozen over, however, in a stretch a few miles above Louisville and a large gorge had formed at Six-mile Island. Running ice and gorges from above Madison, Ind., reached that place on the 7th and started the ice from about the mouth of the Kentucky River which had held firm until then. All this great volume of ice swept down the river and finally lodged and piled up at Grassy Flats, forming a gorge that filled the channel from

shore to shore with ice piled up 10 to 15 feet above the water surface and extending back 16 miles. This condition held for over 24 hours, when finally the Six-mile Island jam gave way before the tremendous pressure, which being transferred to the Grassy Flats gorge, its demolishment soon followed. The twin gorges broke in the late afternoon of the 8th and all that night and the next day the ice was rushing down the river past Louisville and breaking up in passing over the Falls. Many barges and boats of various kinds and sizes were carried along by the great floe and destroyed. The river rose 4 feet at Louisville within an hour after the breaking of the gorges. Fortunately comparatively little damage was done to property along the river front, and the worst was over a few hours after the break, which came none too soon to escape great disaster. With the passing of the floes from these great jams, navigation was practically opened from Louisville to all points above the Falls.

THE WOLF CREEK GORGE.

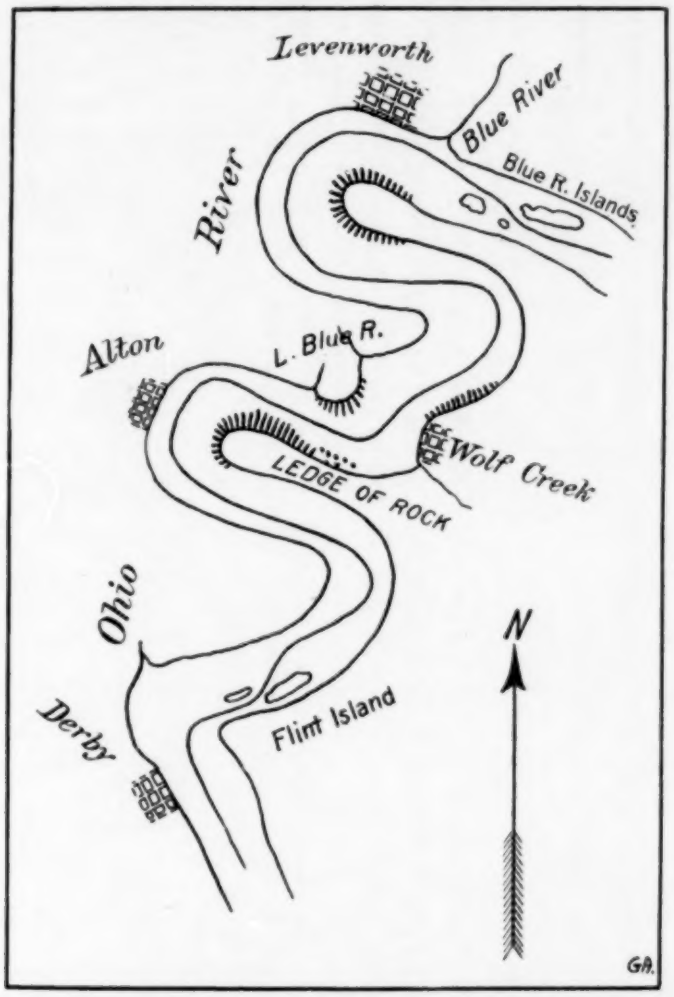


FIG. 1.—Location of the Wolf Creek gorge in the Ohio River, December 21, 1909, to January 18, 1910.

This is considered by river men and old inhabitants the greatest gorge ever known in the Ohio River. It began to form about December 21, when ice which had commenced to move down the river below the Falls stopped in a short bend and narrowing part of the river at a point just below the town of Wolf Creek, Ky. By December 25 it had gorged back to Leavenworth, Ind., a distance of 13 miles, and by the 28th to Brandenburg, Ky., a distance of 31 miles. During the next two weeks, the gorge increased steadily from the great masses of ice coming down from stretches of the river above. By January 14 it extended to the mouth of Salt River, or a distance of 65 miles. The ice had piled to a height of 50 feet above the water at the head of the gorge, the river was 20 feet higher above the jam than below it, and the water had backed up to Louisville. Up to Thursday, January 13, the gorge was formed straight across the river, but about 9 p. m. that night a large chunk in the shape of a horseshoe dropped out and slid down stream. The next night the entire gorge slipped 100 feet or more farther down stream, where it stuck and wedged tighter. This slight movement allowed the ice in Salt River to run out, causing the greatest and fastest flow of water at the mouth of that river known in years. With the tightening up of the ice dam the water rose rapidly above it, the rise at Louisville during the morning of the 15th being 6.6 feet. The gorge held firmly until 10:10 a. m. the 18th, when it broke of its own accord and went out with little actual loss and damage. The backwater at Louisville had reached a stage of 27.2 feet, or 0.8 below flood stage, when the gorge broke. In one hour after the break it had fallen a foot, and by 7 o'clock the next morning, 7.3 feet. The ice floe passed Evansville, Ind., and Henderson, Ky., the afternoon of the 19th, and Paducah, Ky., the 21st. Water swells of 3 to 5 feet attended the passing of the floe down stream. As about all the heavy ice had run out of the Ohio both above and below the Wolf Creek gorge by the 15th, navigation was resumed over the entire river with the passing of that gorge.

The estimated loss caused by the Wolf Creek and Grassy Flats gorges and the high water and ice in the river between Pittsburg and Owensboro is $200,000. Not included in this estimate is the loss sustained by the suspension of river traffic for nearly a month, which will probably add another $150,000. The total number of river craft of all kinds lost and destroyed was about 50 pieces. The tow-boat *Leader*, valued by its owners at $20,000, and the dredge-boat *Virginia*, of the same value, were the two largest boats wrecked.

Congress appropriated $10,000 to dynamite the gorge and a large party of experts in that work, in command of Capt. Lytle Brown of the United States Engineers, went to the scene for the purpose on a special train, but the warm weather, rain, and wind, and the enormous water pressure caused the gorge to break before activities began.

The ice gorge at Freeport, Pa., in the Allegheny River, broke the evening of the 19th and a great volume of water poured into the Ohio at Pittsburg, causing a rise of 16 feet, and to the flood stage of 22 feet at that city by the following morning. The river there, however, fell rapidly after the passing of the great wave.

EXTRACTS FROM SUMMARIES OF SECTION DIRECTORS.

Pennsylvania.—Streams in the southern part of the headwaters of the Ohio Basin were moderately high all the month, the highest being about the 19th. Streams in the Allegheny drainage area were low during the third decade.—*George S. Bliss, Section Director.*

West Virginia.—General rain and warm weather during the last part of the second decade caused the rivers to rise to nearly flood stages. No damage was done.—*Henry C. Howe, Section Director.*

Ohio.—Melting snow and rain caused rapid rises in all the rivers of the State during the second decade. Numerous ice gorges formed in practically all the larger streams, which in many instances caused the water to overflow. In every case where a river passed the flood stage the high water was the result of ice obstruction. The ice passed out as a rule, however, without doing any material damage, although menacing at times. Throughout the State there was minor damage by ice and water in small streams. However, apart from the loss to people living in lowlands, whose houses were flooded, the loss due to delayed traffic was greater than any actual property damage.—*Montrose W. Hayes, Section Director.*

Indiana.—Ice in the rivers began to break up after the first decade. During the 13th to 21st critical conditions arose at several points. In the early portion of this period the upper reaches of the rivers were generally clear of ice, but gorges formed at lower points. There was considerable overflowing by reason of the gorges, but they fortunately broke up before much damage was done. These conditions occurred along both the White and the Wabash rivers. The greatest damage occurred about Mount Carmel, Ill., at the confluence of these two rivers. In this vicinity the estimated damage to river craft, to farm lands from erosion or deposit, to crops destroyed or injured, to property in general, and to loss from suspension of business was about $130,000.—*Verne H. Church, Section Director.*

TABLE 1.—*Climatological data for January, 1910. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	4	23.3	.....	47	18†	−13	8	42	5.31	.....	0.90	38.7	21	6	2	23	sw.	Charles E. Whitney.
Bolivar	Allegany	1,800	16	23.4	+ 1.2	46	20	−15	16	50	4.75	+ 1.87	1.30	20.2	16	3	2	26	sw.	Lowell Andrus.
Franklinville	Cattaraugus	1,598	13	22.2	+ 0.8	45	18†	−12	16	43	5.46	+ 2.26	1.10	26.6	14	2	3	26	s.	Dr. John W. Kales.
Olean	Cattaraugus	.....	2	.....	.....	.....	.....	.....	.....	.....	5.70	.....	1.40	25.0	17	6	5	20	nw.	John W. Alles.
Pennsylvania.																				
Aleppo	Greene	1,135	9	30.2	.....	55	20	− 1	8†	39	6.85	.....	1.24	24.0	17	4	2	25	sw.	J. S. Hinerman.
Baldwin	Butler	1,404	4	25.6	.....	44	20	− 3	8†	30	7.56	.....	1.23	57.0	19	3	2	26	w.	S. H. Templeton.
Claysville	Washington	1,127	6	30.1	.....	55	20	− 3	10†	40	6.94	.....	1.20	24.5	16	8	8	15	w.	E. T. Buchanan.
Franklin	Venango	955	36	25.2[b]	− 1.0	47[b]	21	−11[b]	8	47[b]	7.41	+ 3.71	1.12	41.5	18	4	2	25	w.	F. E. Dixon.
Greenville	Mercer	950	14	25.4	− 1.6	44	20	−10	8	36	5.47	+ 1.90	1.33	42.2	18	7	4	20	s.	A. M. Orr.
Indiana	Indiana	1,350	13	27.6[b]	− 1.5	56[b]	20	0[b]	7	32[b]	5.55	+ 2.14	1.00	31.0	13	4[a]	7[a]	19[a]	s.	Rev. J. M. Welch.
Johnstown	Cambria	1,184	22	29.5	− 0.3	52	20	4	11	30	7.81	+ 3.68	1.32	27.8	18	3	9	19	nw.	E. C. Lorents.
Lycippus	Westmoreland	1,420	18	30.1	+ 1.0	52	20	6	4	26	8.62	+ 5.11	1.22	33.3	20	.....	.....	.....	.....	Murray Forbes.
Pittsburg	Allegheny	842	40	30.8	+ 0.1	51	20	7	4	26	5.33	+ 2.46	1.03	22.3	16	1	9	21	w.	U. S. Weather Bureau.
Saegerstown	Crawford	1,116	19	25.6	+ 0.8	45	20	−15	8†	47	5.54	+ 2.31	1.60	32.0	20	2	2	27	w.	J. G. Apple.
St. Marys	Elk	1,740	12	23.8	+ 0.9	43	18	− 2	8	31	3.99	+ 1.17	0.43	34.0	18	7	10	14	.....	Wm. E. Wittman.
Skidmore	Lawrence	1,000	6	34.8	.....	44	2†	−10	8	35	7.50	.....	1.80	28.0	12	6	2	23	nw.	W. H. Stoner.
Somerset	Somerset	2,250	54	26.6	+ 0.6	50	20	0	11	33	8.91	+ 4.19	1.35	50.4	19	0	11	20	sw.	W. M. Schrock.
Uniontown	Fayette	999	22	31.6	− 0.6	52	26	9	11	28	7.97	+ 4.40	1.04	20.5	19	3	6	22	sw.	Wm. Hunt.
Warren	Warren	1,137	21	22.9	− 2.2	48	21	− 9	15	36	4.52	+ 1.61	0.84	28.2	11	7	0	24	nw.	Anna Simpson.
Maryland.																				
Deer Park	Garrett	.....	16	28.4[a]	+ 0.3	59[a]	20	− 3[a]	11	40	4.90	+ 1.04	0.63	24.0	14	.....	.....	.....	.....	S. P. Specht.
Grantsville	do	.....	16	28.2	+ 1.3	53	20	− 2	11	35	4.90	+ 1.23	0.92	27.0	14	2	9	20	w.	J. S. Miller.
Oakland	do	.....	10	29.1	+ 2.7	58	20	− 2	11	44	5.35	+ 1.37	0.85	20.3	22	6	5	20	n.	R. E. Weber.
West Virginia.																				
Arbovale	Pocahontas	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Uriah Hevener, jr.
Bancroft	Putnam	.....	6	33.2	.....	62	2	4	8	36	5.68	.....	1.17	11.2	16	7	0	24	sw.	James Hill.
Beckley	Raleigh	2,440	11	34.2	+ 2.3	62	2	6	8	41	4.63	+ 1.30	1.00	11.5	11	9	3	19	w.	John A. Ewart.
Ben's Run	Pleasants	622	9	31.6	.....	56	20	1	8†	33	8.33	.....	1.40	25.5	19	14	2	15	.....	J. D. Riggs.
Bluefield	Mercer	2,563	15	34.5	+ 1.8	59	3	10	8†	38	3.14	− 0.02	0.90	8.5	8	12	3	16	.....	Norfolk & Western Ry.
Buckhannon	Upshur	1,472	20	31.8	+ 0.8	57	3	− 2	8	35	6.85	+ 3.12	1.15	16.5	16	8	0	23	.....	H. A. Darnall.
Cairo	Ritchie	667	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Van A. Zevely.
Central Station	Doddridge	900	11	29.6	− 2.8	58	20	− 5	8	37	6.50	+ 3.18	1.30	18.0	18	3	8	20	w.	G. W. Sherwood.
Charleston	Kanawha	598	24	36.4	.....	65	3	8	8	32	5.35	+ 1.88	1.20	6.0	11	6	5	20	w.	R. C. Hewes.
Creston	Wirt	612	10	32.4	.....	66	2	3	8	30	6.62	+ 3.46	1.10	9.4	16	6	5	20	w.	J. M. Reed.
Cuba	Jackson	544	9	32.0[c]	.....	59[c]	20	− 4[c]	8	39[c]	6.03[c]	+ 3.19	1.35[c]	8.6[c]	12[c]	4[c]	8[c]	16[c]	nw.[c]	C. T. Perry.
Doane	Wayne	.....	5	.....	.....	.....	.....	.....	.....	.....	4.38	.....	0.81	17.0	14	4	5	22	nw.	W. H. Jude.
Elkhorn	McDowell	1,933	18	36.2	+ 0.0	61	6	10	10	41	2.54	− 0.35	0.52	5.8	11	13	0	18	w.	J. J. Lincoln.
Elkins	Randolph	1,940	11	31.3	+ 2.2	61	20	4	8	36	5.77	+ 2.43	1.15	17.4	18	4	5	22	w.	U. S. Weather Bureau.
Fairmont	Marion	879	18	31.7	.....	57	17	3	10	36	8.01	+ 4.57	1.26	12.0	12	.....	.....	.....	.....	H. Glenn Fleming.
Glennville	Gilmer	738	22	33.6	+ 1.7	59	3†	1	8	36	6.96	+ 3.16	1.10	13.0	12	4	0	27	nw.	John Holt.
Grafton	Taylor	985	18	32.6[b]	+ 1.0	58[b]	20	2	8	42	9.02	+ 5.57	1.41	11.0	17	6	9	16	.....	John W. Snider.
Green Sulphur Springs	Summers	1,600	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John W. Dalton.
Hinton	do	1,400	21	.....	.....	.....	.....	.....	.....	.....	3.30	+ 0.40	0.94	3.5	12	.....	.....	.....	sw.	V. V. Daly.
Huntingdon	Cabell	510	15	33.4	+ 1.0	63	2	5	7†	40	5.14	+ 1.75	1.32	7.5	11	7	5	19	w.	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	10	31.8	− 0.3	58	3†	5	30	35	3.91	+ 0.70	0.93	6.2	10	1	7	23	w.	Geo. T. Afgabrite.
Logan	Logan	665	8	38.4	.....	63	3	12	10	30	5.06	.....	1.25	8.0	11	3	17	11	w.	H. C. Ragland.
Lost Creek	Harrison	1,033	14	32.6[a]	− 0.2	59[a]	20	− 1[a]	8†	38[a]	6.32[a]	+ 2.71	1.04[a]	9.8[a]	14[a]	8[a]	1[a]	21[a]	w.	Allen Smith.
Madison	Boone	704	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. E. Bradley.
Mannington	Marion	967	7	30.7	.....	54	20	− 2	8†	36	7.02	.....	1.19	21.3	19	5	4	22	w.	Jas. A. Morgan.
Marlinton	Pocahontas	2,169	11	28.7	+ 0.1	52	3	4	8†	34	4.32	+ 1.32	1.50	5.0	7	10	2	19	.....	C. J. McCarty.
Morgantown	Monongalia	1,250	36	32.2[a]	+ 0.6	53[a]	20†	8[a]	4	35[a]	6.70[a]	+ 2.91	1.42[a]	14.0[a]	15[a]	10[a]	8[a]	12[a]	s.	Horace Atwood.
Moundsville	Marshall	640	8	31.2	.....	60	20	− 4	8	40	5.60	.....	1.01	9.0	15	8	2	21	sw.	J. E. Matthews.
New Cumberland	Hancock	987	10	28.5	+ 1.0	50	20	− 5	11	35	5.38	+ 3.37	1.85	15.5	11	4	2	25	s.	Frank S. Evans.
New Martinsville	Wetzel	634	17	32.2	− 0.1	58	20	− 4	8	37	5.98	+ 2.80	1.18	15.4	13	8	2	21	sw.	Wm. Ankron.
Nuttallburg	Fayette	2,252	18	27.6	− 3.6	55	2	5	10	30	2.52	− 0.58	0.47	18.2	10	7	8	16	.....	Stephen Tully.
Parkersburg	Wood	638	22	32.0	+ 0.6	56	20	1	10	31	6.53	+ 3.34	1.43	18.0	16	3	5	23	s.	U. S. Weather Bureau.
Parsons	Tucker	1,662	11	31.0	− 0.2	65	20	1	8	45	9.01	+ 4.95	1.25	28.0	14	8	5	18	.....	J. W. Swisher.
Philippi	Barbour	1,192	18	32.3	+ 0.9	57	20	− 1	8	38	7.02	+ 3.24	1.05	17.8	23	5	8	18	w.	J. D. Dadisman.
Pickens	Randolph	2,785	20	31.2[a]	+ 0.4	64[a]	20	1[a]	8	42[a]	10.10[a]	+ 4.49	1.20[a]	43.0[a]	20[a]	6[a]	2[a]	22[a]	w.	Dr. J. L. Cunningham.
Pineville	Wyoming	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. M. Senter.
Point Pleasant	Mason	553	21	32.6	− 0.7	55	2	0	10	35	5.24	+ 1.81	1.30	5.0	11	0	1	30	sw.	E. H. Armstrong.
Powellton	Fayette	904	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. Swain.
Princeton	Mercer	2,469	10	30.4	.....	56	3	6	30	37	4.78	− 0.46	1.10	16.5	10	8	5	18	s.	H. Scott.
Robertsburg	Putnam	.....	1	32.6	.....	61	2	− 3	10	38	5.79	.....	1.37	8.0	12	4	3	24	w.	E. P. Turley.
Ryan	Roane	639	7	32.4	.....	60	2†	− 3	8	40	6.29	.....	1.27	20.5	16	5	3	23	.....	Wm. E. Ryan.
Smithfield	Wetzel	.....	6	29.9	.....	52	26	0	11	38	5.31	.....	0.70	15.0	15	10	13	8	ne.	G. M. Whisler.
Spencer	Roane	710	7	31.2	.....	59	3†	− 3	8	41	6.83	.....	1.60	19.3	15	0	9	22	.....	A. M. McKown.
Sutton	Braxton	.....	5	32.6	.....	62	3†	3	7	42	6.58	.....	1.60	14.0	10	11	4	16	.....	J. E. Baughman.
Terra Alta	Preston	3,207	10	27.2	− 0.3	48	3†	2	8	30	9.19	+ 4.38	1.36	35.9	13	6	5	20	w.	C. F. Dodge.
Union	Monroe	.....	7	30.6	.....	64	6	6	8	40	2.71	.....	0.67	7.5	6	.....	.....	.....	.....	Shelton Clark.
Valley Fork	Clay	.....	7	32.4	.....	61	20	10	10†	49	3.90	.....	2.00	12.0	6	2	19	10	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	7	34.6	.....	58	6†	5	9	38	5.66	.....	0.80	24.0	12	5	8	18	nw.	D. H. Hamrick.
Wellsburg	Brooke	1,225	10	28.4	− 0.2	48	20	− 1	8	27	6.69	+ 3.41	1.05	31.5	19	3	7	21	sw.	C. P. Waugh.
Weston	Lewis	824	21	.....	.....	.....	.....	1[a]	8	.....	6.78[a]	+ 2.81	0.82[a]	16.0[a]	21[a]	5	6	20	sw.	Miss C. M. Davis.
Wheeling	Ohio	645	26	29.3	.....	51	20	− 5	8†	43	5.86	+ 3.05	1.22	17.8	18	7	4	20	s.	Miss M. B. Forsyth.
Williamson	Mingo	660	10	37.3	+ 1.5	65	3	12	8†	35	4.42	+ 0.71	.....	3.5	12	6	3	22	se.	J. F. Keyser.
Ohio.																				
Amesville	Athens	630	6	30.2	.....	56	20	−21	10	50	.....	.....	1.18	20.0	17	4	8	19	nw.	F. W. Gibson.
Bangorville	Richland	1,380	23	26.4	+ 0.1	47	26	0	8†	28	4.86	+ 1.62	1.13	26.5	16	3	11	17	nw.	S. M. Painter.
Bellefontaine	Logan	1,276	16	26.4	− 0.8	50	26	−16	10	33	2.78	+ 0.22	0.76	10.2	13	5	5	21	w.	Cory L. Lane.
Bladensburg	Knox	1,100	19	24.4	− 3.6	45	20†	−23	10	49	5.00	+ 1.85	1.00	27.2	14	3	10	18	w.	Miss Mary Elliott.
Cadis	Harrison	1,245	7	27.9	.....	49	20	− 3	8	32	6.89	.....	1.20	31.0	16	4	7	20	sw.	Harry B. McConnell.
Cambridge	Guernsey	803	18	28.4	− 0.3	50	20	−18	10	47	4.98	+ 2.28	0.90	22.0	13	3	11	17	.....	Samuel Mehaffey.
Camp Dennison	Hamilton	570	17	29.8	− 1.6	59	30	−16	10	40	3.48	+ 0.09	1.42	12.2	14	8	8	15	s.	Henry F. Pinkvoss.
Canal Dover	Tuscarawas	884	17	27.0	− 0.9	55	20	−15	10	42	5.16	+ 2.19	1.00	29.5	15	4	9	18	s.	Ed. S. Slingluff.
Canton	Stark	1,065	27	26.6	− 1.0	44	20†	− 1	10	29	4.82	+ 1.91	1.08	31.7	19	4	5	22	s.	Prof. C. F. Stokey.
Cardington	Morrow	1,010	15	25.6	− 2.0	48	25	−12	10	36	3.67	+ 1.20	0.80	29.0	11	3	8	20	sw.	Ansel E. Salisbury.
Cincinnati	Hamilton	628	30	32.0	− 0.3	62	26	1	10	28	3.71	+ 0.35	1.60	14.0	16	4	7	20	se.	U. S. Weather Bureau.
Circleville	Pickaway	694	22	29.1	− 1.1	52	26	− 7	10	34	3.44	+ 0.75	0.64	15.0	15	3	9	19	s.	Hon. S. W. Courtright.
Clarington	Monroe	600	7	30.2	.....	55	20	− 6	10	38	6.21	.....	1.50	17.9	22	5	8	18	sw.	Col. S. Tschappat.
Columbus	Franklin	918	32	28.2	− 0.4	52	26	− 3	10	25	5.11	+ 2.16	1.26	24.3	17	3	6	22	s.	U. S. Weather Bureau.
Coshocton	Coshocton	770	1	.....	.....	.....	.....	.....	.....	.....	5.04	.....	1.05	.....	16	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton	Montgomery	790	29	29.7	+ 0.8	56	26	− 4	10	30	3.15	+ 0.14	1.14	10.0	15	7	9	15	sw.	Mrs. Edith L. Boyer.
Delaware	Delaware	927	13	26.4	− 1.8	49	26	−11	10	34	3.84	+ 1.27	0.83	14.8	15	5	3	23	se.	Prof. L. L. Hudson.
Demos	Belmont	1,325	22	29.3	0.0	58	20	1	8	44	5.60	+ 2.86	1.23	20.0	18	4	18	9	sw.	J. T. Dysart.
Dennison	Tuscarawas	908	....	28.1	.....	47	27	−14	10	45	5.47	.....	1.05	17.2	17	4	9	18	s.	Water Supply Co.

TABLE 1.—*Climatological data for January, 1910. District No. 3*—Continued.

Stations.	Counties	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																				
Frankfort	Ross	750	18	31.6	+ 1.2	54	2†	−14	10	44	4.20	+ 1.38	1.10	13.0	12	10	0	21	w.	O. A. Cory.
Garrettsville	Portage	1,005	26	25.4	+ 0.3	44	18†	−11	10	37	4.56	+ 1.50	0.98	30.5	19	2	5	24	sw.	S. M. Luther.
Granville	Licking	960	28	26.8	− 0.4	47	26†	− 8[a]	10	39[a]	5.58	+ 2.56	1.20	24.5	10	4	4	23	w.	Dr. L. E. Davis.
Gratiot‖	do	1,000	21	27.2	− 1.5	46	26†	−14	10	40	6.64	+ 3.81	1.30	30.0	15	4	6	21	sw.	W. B. Longstreth.
Green	Adams	500	17	33.0	− 0.5	60	1	−12	8	39	5.91	+ 2.40	.....	14.5	10	6	7	18	nw.	W. F. Kenyon.
Green Hill	Columbiana	1,135	18	25.2	− 0.9	47	20	−13	10	38	4.75	+ 2.27	0.71	24.0	14	4	10	17	nw.	Jos. E. Bentley.
Greenville	Darke	1,060	24	27.8	+ 0.4	52	26	− 3	7	25	3.44	+ 0.52	0.95	8.5	10	5	8	18	s.	G. A. Katzenberger.
Hillsboro	Highland	1,063	31	28.6	− 1.4	56	26	− 5	10	28	5.49	+ 2.42	1.48	16.5	14	10	7	14	sw.	Carey H. Roush.
Ironton	Lawrence	575	27	33.6	+ 0.8	59	2	− 6	8†	43	5.06	+ 1.31	1.40	.....	10	6	5	20	sw.	James Bull.
Jacksonburg	Butler	975	42	30.6	+ 2.9	56	26	0	10	30	3.69	+ 0.04	.....	10.0	...	6	3	22	sw.	Dr. J. B. Owsley.
Kenton	Hardin	1,015	18	26.5	− 0.9	49	26	− 4	10	25	4.51	+ 1.59	1.31	11.0	15	4	6	21	s.	N. S. Martin.
Killbuck	Holmes	1,087	18	26.2	− 1.9	45	2†	− 5	8	33	5.18	+ 2.74	1.20	27.5	14	3	9	19	nw.	Geo. W. Nowels.
Lancaster	Fairfield	898	15	29.8	− 0.4	53	18	−11	10	37	5.96	+ 3.06	1.60	19.5	12	9	3	19	sw.	R. L. Renshaw.
Lawshe	Adams	900	7	30.6	.....	58	26†	−21	10	49	5.27	.....	1.70	16.5	13	8	6	17	w.	Miss Ruth Hoffman.
McConnelsville	Morgan	710	26	29.0	− 1.2	55	20	−12	8	43	7.00	+ 3.65	1.62	20.5	13	4	8	19	s.	C. H. Morris.
Marietta	Washington	627	90	33.4	+ 1.8	54	27	− 4	10	36	6.00	+ 2.79	1.31	11.0	13	5	6	20	s.	Prof. T. D. Biscoe.
Marion	Marion	980	32	28.1	+ 1.2	49	27	− 2	10	30	4.97	+ 2.32	1.70	17.9	13	3	6	22	w.	Dr. E. H. Raffensperger.
Milfordton	Knox	1,200	18	26.2	+ 1.0	46	26†	− 5	8	31	4.27	+ 1.42	1.00	23.0	12	9	6	16	sw.	L. H. Burgess.
Milligan‖	Perry	875	17	27.8	− 2.0	51	20	−24	10	52	5.50	+ 2.82	1.50	18.0	14	2	10	19	sw.	V. C. Eveland.
Millport	Columbiana	1,145	18	25.5	− 1.9	44	18†	−14	11	41	4.88	+ 2.25	0.88	28.8	16	3	8	20	sw.	G. F. Copeland.
Nellie	Coshocton	850	10	24.8	− 3.6	45	26	−20	10	47	3.61	+ 1.10	1.10	20.0	13	11	2	18	w.	Miss Ethel L. Gamertsfelder
New Alexandria	Jefferson	1,050	25	27.4	− 1.3	48	19	− 4	11	35	6.55	+ 3.13	1.65	36.0	7	8	5	18	w.	Mrs. Mary K. Pennell.
New Berlin	Stark	1,100	18	26.2	− 0.5	48	5	− 2	10	33	4.82	+ 2.53	0.97	22.5	17	4	4	23	w.	Clayton Holl.
New Waterford	Columbiana	1,053	16	24.4	− 2.8	45	18†	−12	8	38	5.86	+ 2.66	1.35	45.0	17	10	5	16	sw.	Sam. C. Scott.
Ohio State University	Franklin	757	27	28.0	+ 0.5	52	26	−11	10	36	4.60	+ 1.66	1.29	17.2	14	1	8	22	nw.	Prof. H. C. Lord.
Pataskala	Licking	997	18	26.6	− 1.0	48	26	−12	8	38	5.71	+ 2.70	1.25	27.3	18	3	10	18	sw.	J. N. Ridenour.
Philo (1)	Muskingum	1,018	15	28.6	− 1.2	56	26	0	8	28	4.61	+ 2.29	1.02	20.2	12	6	7	18	nw.	L. C. Burckholter.
Plattsburg	Clarke	1,130	17	27.0	− 0.7	52	26	− 7	10	30	3.98	+ 1.02	1.00	14.0	11	6	4	21	sw.	F. E. Stewart.
Pomeroy	Meigs	781	26	32.2	0.0	58	26	− 1	7	34	5.44	+ 2.61	1.59	19.0	13	6	7	18	w.	W. G. Branch.
Portsmouth	Scioto	527	79	32.4	− 2.3	58	26	− 4	10	30	6.46	+ 3.04	1.75	12.0	16	3	3	25	w.	Dr. H. A. Schirrmann.
Rittman	Wayne	990	18	.....	.....	.....	.....	.....	.....	.....	2.53	− 0.20	0.60	17.0	16	1	7	23	w.	J. B. Gish.
Shenandoah‖	Richland	1,100	18	24.8	− 1.3	47	26	− 2	10	30	3.28	+ 0.81	0.81	17.6	14	0	10	21	sw.	T. B. Arnett.
Sidney	Shelby	985	27	28.1	+ 1.5	46	18	− 4	10	28	3.30	+ 0.53	1.09	10.9	15	6	2	23	sw.	Hamline B. Blake.
Somerset	Perry	1,080	11	27.1	− 3.1	48	20†	− 2	10	35	4.43	+ 1.63	1.15	28.0	11	8	2	21	s.	Miss M. W. C. Sheridan.
Springfield	Clarke	1,002	16	.....	.....	.....	.....	.....	.....	.....	3.84	+ 0.99	1.10	.....	14	2	9	20	sw.	W. A. Webster.
Summerfield	Noble	1,187	4	29.0	.....	50	27	−17	10	42	6.59	.....	1.35	20.8	15	2	12	17	sw.	H. R. McClintock.
Thurman	Gallia	606	17	32.3	− 0.4	58	20	− 9	10	36	4.32	+ 1.51	0.80	13.0	10	3	7	21	w.	D. D. Thomas
Urbana	Champaign	1,031	40	27.9	+ 0.6	53	26	−10	10	36	2.95	+ 0.30	0.56	20.7	15	4	9	18	sw.	Prof. J. H. Williams.
Warren	Trumbull	900	21	26.6	− 0.1	44	18†	− 3	8†	30	4.82	+ 1.99	0.82	32.5	12	6	8	17	sw.	M. D. McCorkle.
Waverly‖	Pike	590	27	30.8	+ 0.1	58	26	−15	10	47	6.65	+ 3.26	1.91	21.4	14	7	2	22	w.	David Lorbach.
Waynesville	Warren	700	25	28.6[b]	− 0.5	57[b]	26	− 5[b]	10	29[b]	3.20[b]	− 0.14	0.90[b]	6.5[b]	11[b]	8	5	18	w.	Charles Michener.
Wooster	Wayne	1,030	30	26.7	+ 0.2	45	26†	− 1	8†	28	5.29	+ 2.13	0.81	24.5	16	2	5	24	sw.	Experiment Station.
Youngstown	Mahoning	846	18	.....	.....	.....	.....	.....	.....	.....	4.57	+ 2.26	0.90	20.0	16	11	0	20	w.	G. R. Patton.
Zanesville	Muskingum	700	23	.....	.....	.....	.....	.....	.....	.....	4.85	+ 2.03	1.30	21.2	13	8	0	23	s.	S. G. Sprague.
Virginia.																				
Big Stone Gap	Wise	1,540	19	35.4	+ 1.8	58	6	7	23	32	4.35	+ 0.49	1.25	7.5	9	6	3	22	w.	John W. Fox, sr.
Blacksburg	Montgomery	2,170	19	31.2	− 1.1	63	3	7	11†	41	3.33	+ 0.45	0.92	7.0	8	9	5	17	w.	Agricultural Exp. Station.
Burkes Garden	Tazewell	3,250	15	31.1	+ 0.3	56	6	4	8	35	3.19	− 0.01	0.85	7.0	7	9	1	21	w.	C. H. Greever.
Elk Knob	Lee	3,243	7	34.4	.....	53	3†	10	7†	35	4.90	.....	1.29	6.0	15	20	5	6	s.	Henry Nicoll.
Galax	Grayson	2,300	2	33.8	.....	65	2	6	30	40	3.57	.....	1.10	11.0	7	9	13	9	n.	E. C. Williams.
Ivanhoe**‖	Wythe	2,028	6	33.6	.....	58	2†	11	11	33	3.06	.....	1.00	9.2	10	8	10	13	w.	Miss Alice G. Jewett.
Lebanon	Russell	2,131	..	35.0	.....	60	5†	8	8	39	4.57	.....	1.12	14.0	11	10	3	18	sw.	R. D. Swain.
Marion	Smyth	2,224	15	34.4	+ 0.1	68	3	4	23	38	3.84	+ 0.49	1.13	13.0	8	9	10	12	sw.	S. W'n State Hospital.
Max Meadows	Wythe	2,028	14	33.2	− 1.2	58	6	9	10	34	2.82	.....	0.85	6.5	8	11	4	16	sw.	James M. Graham.
Mendota	Washington	1,350	4	.....	.....	.....	.....	.....	.....	.....	4.66	.....	1.30	7.0	10	.....	.....	.....	.....	Frank M. Baker.
Radford	Montgomery	1,773	4	.....	.....	.....	.....	.....	.....	.....	2.54	.....	1.04	.....	7	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry	Scott	1,221	14	.....	.....	.....	.....	.....	.....	.....	5.52	+ 1.13	1.60	8.0	8	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville	Wythe	2,293	17	34.0	+ 0.2	60	6	13	8	33	2.72	− 0.06	0.97	4.6	9	9	4	18	w.	U. S. Weather Bureau.
North Carolina.																				
Andrews	Cherokee	1,800	...	39.2	.....	66	3	13	8	37	3.93	.....	1.67	3.1	11	8	10	13	nw.	J. D. Link.
Asheville	Buncombe	2,250	31	36.4	+ 1.0	67	2	11	8	34	2.42	− 2.25	0.95	2.5	6	13	7	11	nw.	U. S. Weather Bureau.
Banners Elk	Watauga	3,750	2	31.7	.....	55	2†	4	8	34	4.80	.....	1.35	14.0	10	10	3	18	w.	T. L. Lowe.
Brevard	Transylvania	2,230	9	35.9	.....	67	2	10	8	35	2.42	.....	1.08	3.0	5	13	13	5	n.	W. E. Breese.
Bryson City	Swain	2,000	22	.....	.....	.....	.....	.....	.....	.....	3.22	− 1.23	1.35	2.1	8	.....	.....	.....	.....	D. K. Collins.
Cullowhee	Jackson	2,100	...	38.0	.....	69	3	10	8†	44	2.54	.....	1.48	0.3	7	11	4	16	nw.	F. H. Brown.
Hendersonville	Henderson	2,167	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. W. Valentine.
Highlands	Macon	3,670	20	33.4	+ 0.1	58	3	7	22	38	5.67	− 0.48	3.15	8.0	8	16	8	7	nw.	T. G. Harbison.
Hot Springs	Madison	1,326	12	39.6	− 1.4	70	2	13	10	37	3.76	.....	1.07	20.0	10	10	8	13	w.	P. A. Garner.
Jefferson	Ashe	2,800	3	35.2	.....	60	2	9	8	42	2.73	.....	1.03	4.7	7	6	3	22	w.	E. J. Johnson.
Marshall	Madison	1,646	9	38.2	.....	70	2	9	23	34	1.98	.....	0.60	12.0	6	.....	.....	.....	.....	W. E. Finley.
Murphy	Cherokee	1,614	34	.....	.....	.....	.....	.....	.....	.....	4.36	− 1.33	0.98	7.0	9	.....	.....	.....	.....	Miss J. Campbell.
Rock House	Macon	3,100	18	36.1	− 1.0	62	2	11	22	26	4.87	− 1.57	2.28	7.6	7	14	8	9	nw.	B. C. Hawkins.
Waynesville	Haywood	2,756	16	34.1	− 3.1	65	3	10	8†	39	3.34	− 0.81	1.70	10.1	7	15	4	12	sw.	J. C. L. Gudger.
Georgia.																				
Diamond	Gilmer	2,020	19	39.4[a]	+ 0.3	68[a]	3	15[a]	11	36[a]	3.68	− 1.72	1.30	2.5	10	10	5	16	.....	R. A. Kimzey.
La Fayette	Walker	871	3	40.0	.....	68	3	14	7†	39	3.02	.....	1.72	T.	7	9	8	14	nw.	Ralph A. Snow.
Alabama.																				
Bridgeport	Jackson	660	10	.....	.....	.....	.....	.....	.....	.....	4.14	+ 0.64	1.22	0.0	6	7	1	23	n.	Miss Maggie Rinkle.
Decatur	Morgan	573	28	41.2	− 0.5	69	3	10	7	38	4.49	− 0.76	2.15	0.0	7	11	1	19	n.	Ernest A. Carriger.
Florence	Lauderdale	563	26	43.9	+ 3.1	69	26	10	7†	35	4.63	− 0.19	1.46	0.0	6	15	3	13	se.	G. H. Smith.
Guntersville	Marshall	580	5	.....	.....	.....	.....	.....	.....	.....	3.86	.....	1.40	2.5	6	11	5	15	n.	L. S. Long.
Madison	Madison	573	16	41.8	+ 1.2	70	3	8	7	33	3.39	− 0.89	1.50	T.	6	15	5	11	nw.	Albert Klish.
Riverton	Colbert	360	13	39.2	− 2.3	71	26	7	6†	50	4.79	+ 0.34	2.42	T.	6	6	8	17	n.	Ernie J. Moore.
Scottsboro	Jackson	652	27	42.4[b]	+ 1.4	70[b]	3	13[b]	7	37[b]	3.85	− 1.60	2.25	T.	8	14	13	4	.....	Miss Irene Caldwell.
Tuscumbia	Colbert	488	28	40.0	− 0.8	65	2	13	7†	36	4.77	+ 0.38	2.59	0.0	7	9	0	22	nw.	Samuel Moore.
Tennessee.																				
Ashwood	Maury	725	31	39.3	+ 0.4	67	4†	6	7	35	3.62	− 1.52	1.25	0.5	6	13	3	15	n.	Mrs. J. W. Fleming.
Benton	Polk	880	25	40.9	+ 1.0	71	3	13	8	35	3.80	− 0.81	1.22	2.0	9	8	8	15	n.	G. L. Williams.
Byrdstown	Pickett	1,026	17	37.2[c]	+ 0.4	65	2	9	7	31	3.77	− 0.47	.....	4.5	9	.....	.....	.....	w.	John Lacy.
Carthage	Smith	500	26	39.2	+ 1.2	67	26	9	7	37	4.36	+ 0.10	2.04	2.0	11	9	2	20	sw.	E. C. Pickering.
Cedar Hill	Robertson	625	10	36.4	.....	63	26	0	7	33	4.45	.....	1.20	9.5	8	11	4	16	w.	J. F. Ruffin.
Chattanooga	Hamilton	808	31	40.8	+ 0.2	67	3	13	7	29	3.28	− 2.28	1.68	0.9	11	9	4	18	sw.	U. S. Weather Bureau.
Clarksville	Montgomery	520	47	37.4	− 0.3	67	26	− 7	7	40	5.25	+ 1.03	2.00	13.2	10	12	6	13	n.	Prof. Jas. A. Lyon.
Decatur	Meigs	850	14	38.4	− 0.2	67	3	12	7†	35	4.21	+ 0.12	1.73	0.2	11	8	8	15	sw.	J. W. Lillard.
Dickson	Dickson	800	14	38.4	+ 1.1	68	26	− 6	7	36	4.92	− 0.21	1.50	3.0	6	9	9	13	n.	N. R. Sugg.
Dover	Stewart	.....	15	37.7	− 0.6	68	26	−11	7	47	4.95	.....	1.66	12.0	5	9	10	12	s.	A. M. Tippit.
Dunlap	Sequatchie	726	1	39.6	.....	66	3	12	7	36	3.84	.....	1.90	1.0	9	10	7	14	.....	S. B. Boyd.

TABLE 1.—*Climatological data for January, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Tennessee—Cont'd.																				
Elizabethton	Carter	1,575	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lee F. Miller.
Erasmus	Cumberland	1,850	13	34.8	.....	61	2†	4	8	40	5.01	+ 0.10	1.62	6.4	12	9	7	15	se.	Mrs. E. D. Ashley.
Florence	Rutherford	560	28	38.8	+ 0.9	65	26	6	7	33	4.57	+ 0.16	1.60	1.0	9	13	4	14	s.	Erastus P. Bell.
Franklin	Williamson	655	20	38.0	+ 0.2	66	26	5	7	28	4.21	− 0.16	1.40	2.5	7	13	0	18	.....	J. L. Parkes, jr.
Harriman	Roane	841	15	37.0	+ 0.6	64	3	13	7†	30	4.77	+ 0.67	.....	2.1	8	11	6	14	.....	Robert R. Ayers.
Hohenwald	Lewis	983	24	39.4	+ 1.7	68	26	− 5	7	38	3.73	− 1.22	1.55	3.0	7	10	10	11	s.	John Lutselman.
Iron City	Lawrence	.....	13	39.9	+ 0.5	68	26	7	7	36	5.14	+ 0.12	2.24	T.	5	7	15	9	nw.	Capt. H. P. Seavy.
Johnsonville	Humphreys	364	14	38.5	− 0.2	68	26	−10	7	45	4.89	+ 0.48	1.56	6.0	8	11	5	15	s.	Miss Sallie B. Matthews.
Jonesboro	Washington	1,740	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert A. Lovegrove.
Knoxville	Knox	977	39	38.2	+ 3.7	64	3	15	7	26	3.66	− 1.31	1.58	2.0	10	8	6	17	sw.	U. S. Weather Bureau.
Lebanon	Wilson	522	1	39.8[a]	.....	67	26	9	8	31	.....	.....	.....	4.2	.....	9	4	18	s.	Logan Fields.
Lewisburg	Marshall	727	15	39.4	− 0.6	67	26	7	8	37	4.95	+ 0.32	2.87	1.1	10	13	5	13	nw.	Dr. R. D. Crutcher.
Lynnville	Giles	770	22	38.4	0.0	65	2†	8	7	32	2.40	− 2.39	0.81	2.0	7	12	9	10	n.	Col. J. H. Burrow.
McMinnville	Warren	1,011	26	38.2	− 0.4	63	26	7	7†	34	3.84	− 1.04	1.60	3.2	14	6	11	14	s.	J. T. Sparkman.
Maryville	Blount	1,050	14	40.4	+ 2.5	69	3	13	8	30	3.32	− 1.23	1.00	3.7	10	9	8	14	w.	Mrs. F. E. Benedict.
Mountain City	Johnson	2,486	13	34.9	+ 1.7	63	5	1	23	48	4.12	+ 0.56	0.77	10.0	9	5	18	8	.....	E. E. Barry.
Nashville	Davidson	654	39	39.4	+ 1.4	69	26	7	7	31	3.45	− 1.40	1.84	1.7	9	11	5	15	w.	U. S. Weather Bureau.
Newport	Cocke	1,280	20	36.5	− 1.3	70	3	12	23	28	3.00	− 0.42	0.85	4.0	5	13	6	12	w.	Dr. C. T. Burnett.
Palmetto	Bedford	770	17	39.8	+ 1.2	66	26	4	7	35	4.17	− 0.78	1.75	T.	8	12	3	16	n.	Mrs. Ross Woods.
Pinewood	Hickman	.....	3	37.5[b]	.....	70	26	− 9	7	44	4.47	.....	1.80	8.3	10	15	4	12	n.	Miss Carrie Cash.
Pope	Perry	.....	13	34.6[d]	.....	63	1	2	7	33	3.20	− 1.51	2.20	2.0	6	17	5	9	n.	Miss Bessie Howard.
Rogersville	Hawkins	1,150	25	36.2[a]	+ 0.4	63	3	12	10†	34	3.13	− 0.62	0.86	T.	11	9	1	20	w.	Fred. Beal.
Rugby	Morgan	1,410	22	34.8	− 0.2	73	2	1	8	45	6.63	+ 1.72	2.70	9.0	9	7	11	13	se.	S. G. Wilson.
Savannah	Hardin	442	26	41.8[a]	+ 2.0	66	2†	8	7	44	4.42	− 0.18	2.20	1.5	5	18	0	13	nw.	J. A. Spencer.
Sevierville	Sevier	.....	4	38.0	.....	69	3	10	8†	35	3.42	.....	0.90	7.7	9	2	8	21	sw.	H. O. Eckel.
Sewanee	Franklin	2,000	14	37.5	+ 0.2	59	19	5	7	33	3.13	− 1.19	1.50	4.5	6	8	2	20	n.	University of the South.
Sparta	White	920	4	39.2	.....	62	3†	9	8	33	2.17	.....	1.45	1.0	7	11	10	10	w.	E. H. Hull.
Springdale	Claiborne	1,058	20	34.1	− 2.0	56	2†	8	23	33	5.22	+ 1.30	1.50	2.5	9	4	7	20	w.	Mrs. Lucy E. Breeding.
Springville	Henry	377	7	37.2	.....	68	26	−17	7	47	5.47	.....	2.16	14.0	11	12	5	14	n.	H. A. Boden.
Tullahoma	Coffee	1,075	22	39.0	+ 0.9	67	1	6	7	32	4.27	− 0.98	2.02	3.2	9	11	6	14	n.	R. T. Moore.
Waynesboro	Wayne	753	24	40.0	+ 1.3	68	26	5	7	35	4.76	+ 0.27	1.50	0.7	9	15	7	9	n.	H. C. Boyd.
Wildersville	Henderson	.....	13	39.9[a]	+ 0.9	67	26	− 4	8	35	5.11	− 0.18	2.40	4.0	5	13	3	15	n.	W. R. Wilson.
Yukon	Lincoln	850	13	38.8	− 1.2	63	3	7	7	28	4.41	− 0.28	2.25	.....	8	11	5	15	nw.	W. P. Watson.
Kentucky.																				
Alpha	Clinton	.....	16	39.2	− 0.7	62	2	8	8	32	5.80	+ 1.34	2.75	4.0	5	10	1	20	w.	W. W. Hicks.
Anchorage	Jefferson	700	9	39.7	− 2.8	63	26	−10	7	42	4.03	+ 0.69	1.10	13.0	9	8	9	14	sw.	C. E. Barrett.
Bardstown	Nelson	637	14	34.3	− 0.6	65	26	− 7	10	40	3.98	− 0.18	1.05	11.0	10	6	1	24	sw.	G. M. Talbott.
Beattyville	Lee	650	7	32.2	.....	63	2	0	8	55	5.98	.....	2.12	15.0	11	7	3	21	w.	G. W. Cann.
Beaver Dam	Ohio	441	7	31.5	.....	67	26	−20	7	63	4.85	.....	2.11	17.0	7	10	1	20	nw.	T. S. Woodward.
Berea	Madison	1,070	9	34.8	.....	62	2	− 3	10	33	3.22	.....	0.94	11.5	11	11	10	10	sw.	C. F. Rumold.
Bowling Green	Warren	500	21	36.5	0.0	68	26	3	8†	36	2.51	− 1.93	1.20	13.5	9	11	1	19	n.	Mrs. L. G. Causey.
Burnside	Pulaski	773	20	.....	.....	.....	.....	.....	.....	.....	5.50	+ 1.75	2.50	2.8	10	10	5	16	se.	G. M. Estes.
Cadiz	Trigg	.....	8	37.2	.....	67[d]	26	−12[d]	7	40†	3.81[c]	.....	1.47[c]	.....	7[c]	12[b]	4[b]	7[b]	.....	F. T. Street.
Calhoun	McLean	397	7	35.1	.....	65	26	− 6	10	41	4.76	.....	1.34	12.5	9	7	9	15	nw.	W. A. Taylor.
Catlettsburg	Boyd	544	17	.....	.....	.....	.....	.....	.....	.....	5.00	+ 1.10	1.24	6.0	15	10	3	18	sw.	Chas. N. Bruns.
Earlington	Hopkins	370	21	33.7	− 1.6	67	26	− 8	7	46	4.68	+ 0.73	1.70	15.5	10	10	1	20	nw.	J. B. Atkinson.
Edmonton	Metcalfe	600	19	35.0	− 0.7	64	26	0	8	34	3.47	− 0.64	1.10	6.5	11	9	3	19	w.	Miss Lee Ray.
Eubank	Pulaski	1,177	16	33.1	− 1.3	60	1†	2	8	45	4.59	+ 0.75	0.96	7.3	12	7	3	21	sw.	W. H. Henderson.
Falmouth	Pendleton	530	21	.....	.....	.....	.....	.....	.....	.....	4.15	+ 0.88	0.97	15.0	16	8	2	21	w.	J. V. Oldham.
Farmers	Rowan	668	5	33.2	.....	61	2	−13	10	50	5.76	.....	1.86	11.0	11	5	5	21	w.	Miss Gertrude Sorrell.
Frankfort	Franklin	560	20	33.2	− 2.2	62	26	3	8	35	3.73	+ 0.39	0.91	10.2	12	8	10	13	w.	Gustave Schaefer.
Franklin	Simpson	691	17	36.2	− 1.4	67	26	− 4	7	36	4.12	+ 0.38	0.99	6.5	9	6	13	12	s.	J. E. Newman.
Greensburg	Green	581	18	32.2	− 2.3	65	27	− 8	9	55	5.38	+ 1.35	1.40	9.0	10	12	0	19	n.	L. C. Alcorn.
Highbridge	Jessamine	762	8	.....	.....	.....	.....	.....	.....	.....	4.55	.....	1.30	9.1	13	8	5	18	.....	Miss Lulu Wood.
Hopkinsville	Christian	524	14	35.6	− 1.3	70	26	−12	7	34	4.62	− 0.30	2.00	14.2	8	12	0	19	s.	W. F. Randle.
Irvington	Breckinridge	.....	12	34.2	− 1.4	64	26	− 4	7†	37	4.17	+ 0.32	1.44	14.0	9	11	2	18	w.	W. J. Piggott.
Leitchfield	Grayson	635	15	33.9	− 0.9	66	26	− 5	7	36	4.56	+ 0.25	1.50	11.2	.....	10	6	15	nw.	John E. Stone.
Lexington	Fayette	989	23	32.0	− 1.0	60	26	− 4	7	34	4.46	− 0.63	1.20	12.8	15	5	8	18	s.	U. S. Weather Bureau.
Loretto	Marion	681	13	34.4[c]	− 2.2	65[a]	26	−13[a]	10	45[a]	3.40	− 1.29	1.24	7.8	7	15	3	13	.....	Loretto Academy.
Louisville	Jefferson	525	38	34.0	− 0.5	64	26	− 4	7	30	3.25	− 0.65	0.91	10.3	14	7	7	17	s.	U. S. Weather Bureau.
Marion	Crittenden	.....	16	35.8	− 0.4	62	26	− 1	7	24	3.67	− 0.80	1.99	10.0	4	10	6	15	nw.	B. C. Paris.
Maysville	Mason	524	14	30.8	− 1.8	61	26	− 8	11	52	5.78	+ 2.50	1.50	15.6	15	12	6	13	nw.	Mrs. Mary D. Marsh.
Middlesboro	Bell	1,128	17	38.0	+ 3.2	63	3	9	23	33	4.98	+ 1.12	2.35	.....	9	22	2	7	.....	B. H. Perkins.
Mt. Sterling	Montgomery	930	21	32.2	− 1.6	59	2	− 9	10	37	5.83	+ 1.45	1.20	16.5	11	5	9	17	s.	James O'Connell.
Owensboro	Daviess	479	14	32.6	− 2.8	64	26	− 1	11	41	2.29	− 1.50	0.80	11.0	9	9	0	22	se.	Henry S. Berry.
Owenton	Owen	700	14	33.0	− 0.1	58	27	− 3	7	32	4.78	+ 0.36	1.25	15.5	7	1	18	12	.....	J. T. Walker.
Paducah	McCracken	341	18	.....	.....	.....	.....	.....	.....	.....	3.54	− 0.83	1.76	9.0	8	13	0	18	s.	S. A. Fowler.
Pikeville	Pike	.....	1	.....	.....	.....	.....	.....	.....	.....	4.32	.....	1.10	5.7	12	3	6	22	sw.	A. R. Williams.
Richmond	Madison	926	21	34.7	+ 1.9	60	2	3	10	31	5.69	+ 1.44	1.98	.....	13	8	2	21	.....	J. W. Crooke.
St. John	Hardin	777	14	30.8	− 2.9	65	26	−10	7†	40	4.16	+ 0.21	1.20	12.0	11	11	4	16	.....	Bethlehem Academy.
Scott	Kenton	.....	13	31.6	− 0.8	60	26	0	7	30	3.60	− 0.10	1.47	11.7	15	5	6	20	s.	E. B. Wilson.
Shelby City	Boyle	1,087	16	32.2	− 2.2	61	2	− 8	10	40	5.56	+ 1.39	2.00	11.0	11	9	3	19	sw.	W. E. Grubbs.
Shelbyville	Shelby	750	21	30.8	− 2.9	62	26	− 6	10	52	3.39	− 0.38	.....	11.5	11	3	11	17	s.	Dr. H. W. Preissler.
Taylorsville	Spencer	422	8	31.4	.....	64	26	−18	10	46	3.80	.....	1.22	11.5	9	8	4	19	w.	E. D. Bourne.
Williamsburg	Whitley	939	13	36.9	− 1.5	67	1†	10	8	40	5.42	+ 1.85	2.52	4.7	9	12	1	18	s.	Noble C. Jones.
Williamstown	Grant	943	8	30.1	.....	60	26	− 3	8	40	4.72	.....	1.20	14.1	14	7	4	20	.....	Mrs. Sarah E. Carter.
Indiana.																				
Anderson	Madison	892	15	28.7	− 0.1	54	26	0	7	25	3.42	+ 0.81	1.17	6.2	11	7	5	19	nw.	W. H. Stanton
Bloomington	Monroe	744	15	28.0	− 2.5	62	26	−10	8	44	3.05	+ 0.60	0.93	9.3	16	6	4	21	se.	Earl E. Ramsey.
Bluffton	Wells	835	15	28.2	+ 1.4	54	26	0	7	24	2.92	+ 0.51	1.06	.....	6	.....	.....	.....	.....	Prof. P. A. Allen.
Butlerville	Jennings	767	25	30.4	− 0.1	60	26	− 5	10	30	4.62	+ 0.60	1.72	14.5	15	7	4	20	s.	C. F. Hole.
Cambridge	Wayne	941	19	26.4	− 0.5	51	17	−13	10	40	3.23	+ 0.34	0.94	10.2	16	7	2	22	w.	Charles Lemberger.
Columbus	Bartholomew	632	27	29.4	+ 0.2	60	26	−12	10	37	4.01	+ 0.85	1.45	10.5	11	6	4	21	sw.	John A. Perry.
Connersville	Fayette	769	28	28.4	+ 0.6	52	18	− 9	7	34	4.03	+ 0.94	1.05	11.5	15	8	6	17	w.	C. C. Hibbs.
Delphi	Carroll	668	23	25.6	+ 0.4	54	26	− 3	7	37	2.74	+ 0.11	0.84	4.5	12	4	5	22	.....	Higginbotham & Son.
Eminence	Morgan	782	4	28.8	.....	57	26	− 1	7	26	2.19	.....	0.80	1.8	8	14	7	10	sw.	Dr. E. E. Kelso.
Evansville	Vanderburg	386	34	33.8	+ 1.5	60	26	1	7	30	2.39	− 1.10	0.86	9.3	11	10	7	14	s.	U. S. Weather Bureau.
Farmersburg	Sullivan	.....	12	31.4[b]	+ 0.8	54[b]	18	− 1[b]	7	27[b]	1.40	− 0.45	0.60	2.0	5	11[a]	0[a]	19[a]	w.	Maurice Yeager.
Farmland	Randolph	1,101	28	28.0	+ 0.8	51	26	− 2	7	31	3.58	+ 0.85	0.90	.....	14	3	5	23	nw.	W. J. Davisson.
Greenfield	Hancock	905	7	28.3	.....	53	26	− 4	7	22	2.95	.....	0.95	5.5	10	5	13	13	s.	Prof. W. C. Goble.
Greensburg	Decatur	954	14	29.4	− 0.7	51	18	− 5	7	28	4.49	+ 1.31	1.45	12.0	10	9	4	18	sw.	Chas. H. Ewing.
Heltonville	Lawrence	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. L. Palmer.
Huntingburg	Dubois	.....	2	33.8	.....	63	26	9	11	34	2.88	.....	1.05	.....	9	.....	.....	.....	.....	H. Dufendach.
Huntington	Huntington	741	17	27.6	+ 1.1	53	26	0	7	24	2.42	− 0.24	0.90	1.7	8	8	2	21	nw.	Chas. McGrew.
Indianapolis	Marion	822	39	28.9	+ 0.7	56	26	0	7	22	2.62	− 0.19	0.89	3.1	15	6	2	23	s.	U. S. Weather Bureau.
Jeffersonville	Clark	455	28	33.1	− 1.1	63	26	− 4	10	34	3.16	− 0.61	0.90	10.0	13	4	15	12	.....	John C. Loomis.
Judyville	Warren	.....	3	27.4[c]	.....	56[c]	26	− 5[c]	9	29[c]	0.88	.....	0.50	1.7	5	10	4	17	w.	Dale R. Warrick.

TABLE 1.—*Climatological data for January, 1910. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Indiana—Cont'd.																				
Kokomo	Howard	840	18	27.4	+ 0.3	51	26	0	7	22	2.97	+ 0.35	0.97	2.0	7	7	9	15	w.	John W. Doty.
Lafayette	Tippecanoe	617	31	26.5	+ 1.1	53	26	0	7	31	2.33	− 0.14	0.88	2.3	9	7	2	22	s.	Wm. J. Jones, jr.
Logansport	Cass	620	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Massena.
Madison	Jefferson	460	18	32.1	− 1.0	62	28	− 5	7	29	3.65	− 0.14	1.39	15.2	13	11	5	15	w.	Dr. J. Cooperider.
Marengo	Crawford	363	28	29.6	− 3.3	61	26	−18	7	43	3.85	− 0.83	0.90	12.0	9	11	3	17	w.	J. M. Johnson.
Marion	Grant	814	24	27.8	+ 0.7	53	26	0	7	24	3.95	+ 1.40	1.09	5.1	11	5	8	18	nw.	James F. Hood.
Markle	Huntington	814	15	26.2	− 1.4	52	25	1	10	25	1.85	− 0.76	0.75	0.5	4	10	8	13	sw.	I. S. Shideler.
Mauzy	Rush	980	30	28.0	+ 1.7	58	26	− 9	7	33	3.41	+ 0.16	0.98	9.2	14	4	8	19	nw.	Elwood Kirkwood.
Moores Hill	Dearborn	.....	9	29.8	.....	57	26†	− 5	7	29	3.36	.....	1.54	11.0	15	8	2	21	nw.	W. S. Bigney.
Mount Vernon	Posey	410	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. M. Spencer.
Paoli	Orange	611	13	30.0	− 2.6	56	18	−23	7	47	2.96	− 0.33	1.08	11.5	10	7	8	16	sw.	James A. Gillum.
Princeton	Gibson	481	28	31.2	+ 0.2	61	26	−10	7	30	1.84	− 1.49	0.95	4.0	3	15	2	14	nw.	Elisha Jones.
Richmond	Wayne	972	25	27.8	+ 0.6	55	26	−11	10	34	3.04	+ 0.23	1.01	7.1	15	5	6	20	.....	Walter Vossler.
Rochester	Fulton	775	7	27.3	.....	48	26	1	10	26	2.67	.....	1.00	4.2	8	10	5	16	.....	G. P. Keith.
Rockville	Parke	722	24	28.8	+ 0.5	53	26	2	7	22	1.95	− 0.51	0.72	2.0	8	7	2	22	nw.	Dr. W. N. Wirt.
Rome	Perry	370	7	34.2	.....	64	26	− 9	7	43	3.37	.....	1.43	11.5	10	14	1	16	w.	Adam Anspach.
Salamonia	Jay	.....	5	26.8[b]	.....	53[b]	26	− 5[b]	7†	28[b]	3.44	.....	1.12	5.5	12	4[a]	1[a]	25[a]	nw.	Chas. V. Skinner.
Salem	Washington	717	17	30.0	− 2.0	63	26	−21	7	41	4.00	+ 0.37	1.36	13.0	11	6	9	16	w.	Emmet S. Allen.
Scottsburg	Scott	570	16	32.2	− 1.1	61	26	− 9	10	39	3.33	− 0.21	1.12	11.5	11	8	6	17	w.	Frank H. Park.
Seymour	Jackson	610	23	30.8	− 0.8	60	26	−10	10	39	3.09	− 0.48	0.99	10.4	12	6	10	15	sw.	J. Robt. Blair.
Shelbyville	Shelby	.....	6	28.2	.....	57	26	−12	7	31	3.78	.....	1.15	10.9	13	5	11	15	s.	B. F. Crouch.
Terre Haute	Vigo	498	20	30.9	+ 1.1	55	26	4	7	22	2.58	− 0.07	0.84	7.5	10	10	6	15	nw.	Prof. R. G. Gillum.
Veedersburg	Fountain	612	11	29.0	+ 1.2	54	26	1	7	25	2.41	+ 0.03	0.73	3.5	8	12	9	10	s.	L. A. Culver, jr.
Vevay	Switzerland	525	29	32.3	− 0.1	62	26	− 3	10	36	3.85	− 0.13	1.75	15.0	9	8	3	20	nw.	Miss Frederica Boerner.
Vincennes	Knox	431	18	30.0	− 1.0	59	26	− 7	7	36	3.50	+ 0.28	1.10	8.5	9	9	1	21	nw.	Garrett V. List.
Washington	Daviess	484	14	30.2	− 1.2	60	26	− 2	8	35	2.68	− 0.73	0.70	9.7	11	10	0	21	nw.	Homer B. Turrell.
Whitestown	Boone	.....	2	27.4	.....	50	18	0	7	22	2.59	.....	1.04	2.6	8	4	9	18	w.	C. A. Stevenson.
Winona Lake	Kosciusko	.....	3	25.9	.....	49	26	− 5	7	31	2.09	.....	0.91	5.3	10	6	6	19	sw.	Rev. Albert A. Young.
Worthington	Greene	526	28	29.4	+ 0.4	60	27	− 6	7	31	3.08	+ 0.07	0.71	7.5	10	9	7	15	sw.	D. W. Solliday.
Illinois.																				
Albion	Edwards	531	19	31.4	− 0.7	58	26	0	10	30	2.55	− 0.36	0.88	7.0	9	12	5	14	ne.	B. F. Michels.
Charleston	Coles	720	25	29.3	+ 1.0	50	26	3	6†	30	2.01	− 0.17	0.99	2.5	11	8	6	17	s.	Jacob B. Daisy.
Equality	Gallatin	421	12	35.5	0.0	62	17†	2	7	30	2.37	− 1.67	0.67	6.5	8	15	2	14	s.	Dr. L. W. Gordon.
Fairfield	Wayne	495	17	32.3	− 1.1	58	26	3	10	30	2.40	− 0.48	0.86	4.5	7	15	0	16	nw.	Geo. A. Tromly.
Flora	Clay	495	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jos. S. Peak.
Golconda	Pope	500	32	33.4	− 0.6	64	26	−14	7	41	3.08	− 0.67	1.08	8.0	7	13	2	16	nw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	8	26.9	.....	50	26	− 3	7	28	2.99	.....	0.97	2.7	12	11	6	14	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	27	29.5	− 2.2	57	18	−12	7	36	3.09	− 0.08	0.76	8.5	8	7	8	16	nw.	C. C. Judd.
Martinsville	Clark	630	22	30.4	+ 1.1	53	18†	4	7	28	1.33	− 1.13	0.50	2.5	6	11	2	18	w.	G. M. Daugherty.
Mount Carmel	Wabash	424	9	30.2	.....	61	26	− 4	7	37	3.44	.....	0.80	13.6	9	9	1	21	n.	Mrs. H. M. Phillips.
New Burnside	Johnson	556	15	35.0	− 3.1	60	26	8	7	28	3.06	− 0.48	1.20	8.0	4	15	4	12	n.	Geo. Harris.
Olney	Richland	486	23	32.3	+ 0.3	58	26	0	7	25	2.97	+ 0.08	0.72	3.5	10	9	7	15	se.	Victor E. Phillips.
Palestine	Crawford	500	28	30.8	+ 1.9	57	26	− 4	7	24	2.71	− 0.25	0.87	3.0	7	6	4	21	nw.	Duane Shaw.
Paris	Edgar	600	17	27.6	− 1.0	54	26	3	7	30	2.60	+ 0.25	0.90	2.5	6	5	16	10	sw.	H. P. Twyman.
Philo	Champaign	700	26	27.1	+ 1.1	49	26	0	6†	25	2.26	− 0.08	0.55	1.8	7	8	7	16	nw.	H. A. Burr.
Rantoul	do	768	19	26.8	+ 1.1	48	26	− 3	6	28	2.50	+ 0.34	0.95	1.5	7	12	5	14	nw.	Wm. Breiner.
Robinson	Crawford	500	10	32.6	+ 1.2	56	26	5[a]	10	32[a]	2.25	− 0.88	1.05	4.0	7	11	4	16	w.	A. P. Woodworth.
Sumner‖	Lawrence	459	2	31.2	.....	55	18†	− 7	7	29	1.60	.....	0.51	5.0	6	10	4	17	nw.	O. A. Fyffe.
Tuscola	Douglas	644	17	27.8	+ 0.4	51	19	1	6†	31	2.68	+ 0.31	1.00	3.0	9	7	5	19	s.	E. W. Lester.
Urbana‖	Champaign	725	8	27.0	.....	47	26	− 1	6†	26	2.23	.....	0.94	2.0	6	2	21	8	w.	Prof. J. G. Mosier.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
¶ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 3, Ohio Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York.																																	
Allegany	Allegheny	.02	.22	.23		.27	.40	.25		.10	.04			.10	.90				.75		.66	.36	.20			.02	.05	.35	.15	.05	.10	.09	5.31
Bolivar	do	T.	T.	.05		.20	.57	.27		T.	.02			.08	.44			T.	.70			1.30	.39	.05		T.	.03	.35	T.	.17	.10	.05	4.75
Franklinville	do	T.	T.	.10	.10	.18	.36	.25	T.	.10	T.			T.	.82	T.	T.	T.	1.10	T.	.20	.95	.60	T.	T.	T.	T.	.60	T.	T.	.05	.05	5.46
Olean	do			.02	.08		.74	.50		*	.04			*	.72	.01		*	.50	.68		.24	1.40	.22			*	.32	.02	.04	.03	.14	5.70
Maryland.																																	
Deer Park	Youghiogheny		.26	.53		.18	.50	.20		.20				.30					.50			.63	.40					.30	.20	.60		.10	4.90
Grantsville	do			.08		.32	.38	.08		.10				.80	.34	.20			.38			.92	.40						.20	.60	.10		4.90
Oakland	do		.18	.30		.12	.48	.08		.08			.04	.55	.50			.05	.85			.45	.25	.04	.06	.01	.04	.45	.42	.24	.14	.04	5.35
Pennsylvania.																																	
Aleppo	Ohio	.05		.29		.32	.62	1.05		T.		.10	.40	1.00	T.	.05		.08	1.24			1.00	.20					.18	.18	.03		.06	6.85
Baldwin	Allegheny		.05	T.	T.	.35	.50	.25		.05	.50		T.	.35	.95			.50	.85			.70	1.23	.20		T.	.10	.45	.10	.10	.23	.10	7.56
Beaver Dam	Ohio	T.	.02	.07	T.	T.	.86	.35			.02			.24	.99	.03		.01	.82	.42		.33	.39	.15	T.	T.		.23	.03	T.	T.	.19	5.15
Bradford	Allegheny		T.	.01	.08		.68	.43	T.	T.	.11				.42	.10			.73	.54		.27	1.15	.13		T.		.31	.07	.04	.02	.12	5.21
California	Monongahela																																
Clarion	Allegheny																																
Claysville	Ohio	T.	.03	.16		.44	1.04	.48		T.			T.	.98	.56	.05		.01	1.20			.78	.49	T.			T.	.32		.12	.25	.03	6.94
Confluence	Youghiogheny			.28	.12		.80	.90	T.	T.	.05			.20	1.46	.14			.76	.30		.18	.56	.06		.01	T.	.38	.18	.30	.06	.08	6.82
Davis Island Dam	Ohio		.01	.08	.08	T.	.82	.65	T.		T.			.28	1.22	.04		T.	.68	.16		.51	.74	.25	T.		T.	.09	.08	.08	T.	.19	5.96
Derry Station	Allegheny		.10	.49		.57	1.01	.45	T.				.10	.90	.68			.03	1.00			.81	.33				.05			.65	.16	.06	7.39
Franklin	do		.06	.06	.02	.01	1.36	.62			.04			.04	.92	.22		T.	.96	.34		.26	1.12	.60	T.			.50	.10	T.	T.	.18	7.41
Freeport	do		.04	.08	.04		1.04	.68			.02			.17	.93	.14		.02	.97	.21		.64	.95	.47			T.	.21	.11	.10	T.	.30	7.12
Greensboro	Monongahela		.02	.26	.08		.88	.90	.01		.01			.20	1.08	.08		T.	.58	.36		.56	.76	.06				.12	.16	.20	T.	.10	6.42
Greensburg	Youghiogheny		.06	.30	T.	.42	1.10	.37		.01			.05	.48	.42	.04		.01	.90			.86	.80	.05			.01	.30	T.	.27	.10	.03	6.58
Greenville	Ohio	.02	.03	.01	.09	T.	.43	.09		.06	T.		T.	.43	.62			T.	1.33	T.		.57	.95	.14	T.	T.	.03	.49	T.	.02	.14	.02	5.47
Grove City	do	T.	.03	.08		.29	.97	.26		.04	T.			.28	.85			.07	1.08			.56	.75	.45	.03	.05	.40	1.20	.10	.05	.14	.03	7.71
Herrs Island Dam	Allegheny		T.	.08	.09	T.	.90	.76			T.			.23	1.05	.05	T.	T.	.58	.19		.53	.48	.25	T.	T.	T.	.08	.03	.07	T.	.19	5.56
Indiana	do		.08	.60		.10	.30			T.				.30	.30			T.	1.00			.94	1.00				T.	.08	.30	.25	.30		5.55
Irwin	Monongahela		.04	T.		.62	1.00	.36		T.	T.		.34	.56	.57	.03			1.00			.87	.11	T.			.03	.19	T.	.15	.05	.07	5.99
Johnstown	Allegheny	T.	.02	.29		.88	1.10	.18	T.		.04			1.32	.14			.58	.76			.75	.57			T.	.20	.23	.28	.23	.14	.10	7.81
Lock No. 4	Monongahela		T.	.17	.15		1.02	.75	T.		T.			.20	1.03	.05		T.	.65	.25		.60	.60	.10			T.	.25	.02	.15	T.	T.	5.99
Lyceippus	Allegheny		.11	.57	T.	.34	1.18	.30		.03			.05	.70	1.22	.07		T.	.97			.82	.93	.30			.04	.38	.01	.41	.17	.12	8.62
Parkers Landing	do	T.	.04	T.	.04	T.	.70	.30	T.		.06			.06	.60	.06		T.	1.20	.34		.24	.80	.90		T.		.28	.12	T.	.04	.30	6.08
Pittsburg	Ohio	T.	T.	.11	T.	.66	.74	.11		.01	T.		.12	.97	.09			.30	.27			.89	.65	T.	T.		T.	.12	.03	.07	.19	T.	5.33
Saggerstown	Allegheny		.06	.11	.02	.35	.48	.22		.10	C3			.11	.51			.04	1.60			.57		1.00		.02	.06	.14	.01	.03		.08	5.54
St. Marys	do	.14		.10			.36	.18						.40	.40			.30	.43			.32	.30	.20	.10	.08		.20	.10	.10	.18	.10	3.99
Saltsburg	do	T.	T.	.14	.10	T.	1.06	.86	.02		.05	T.		.16	1.16	.14		.02	.92	.20		.54	1.10	.34	T.	T.		.32	.18	.26	.02	.28	7.87
Skidmore	Ohio		.90			.30	.70			.10				.40	.40			.75	1.80			.50	.80					.65		.20			7.50
Somerset	Youghiogheny			.18		.78	.95	.09		.21			.05	.75	.90	.20		.10	1.35			.20	.80				.10	.60	.25	.65	.40	.35	8.91
Springdale	Allegheny		.03	.09	.07		1.03	.68			.01			.24	.80	.14		.02	.82	.14		.61	.67	.35				.15	.13	.13		.25	6.36
Uniontown	Monongahela		.10	.30	T.	.40	.75	.80		.06			.06	.86	.59	.13		.40	1.04			.69	.92				.04	.37		.25	.12	.09	7.97
Warren	Allegheny			.10			.70	.06	.16		.10				.60				.84			.60	.70				T.	.36			.30		4.52
West Newton	Youghiogheny		.04	.12	.04	T.	1.00	.78	.04		.01			.30	1.20	.08		T.	.66	.20		.56	.96	.12				.32	.06	.32	T.	.12	6.93
West Virginia.																																	
Arbovale	Great Kanawha																																
Bancroft	do		.03	.10	.08		1.17	.65	T.					1.09	.07	T.	T.	.13	.82	.28		.41	.40	.10		T.			.05	.10	.20	5.68
Beckley	do			.75										.53	.05				.60			.30	.30	.20	1.00			.12	.48		.30	4.63
Ben's Run	Ohio		.27	.25		.40	1.40	.33					.05	.93	.57	.20	.10	.60	1.16			.77	.80				.02	.19	.08		.11	.10	8.33
Bluefield	Great Kanawha							.05							T.			.63	.46			.90		.30					.20	.50		.10	3.14
Brandonville	Monongahela	.21	T.	.51	T.		.89	1.17						.50	.90				1.04			.42	.40		T.		.85	.30		.30		.57	8.06
Buckhannon	do		.30	.35		.15	.80	.56			.05		T.	.35	.30			.25	1.15			.74	.75					.50	.10	.30		.20	6.85
Cairo	Little Kanawha																																
Central Station	Middle Island Creek		.13	.42		.09	1.30	.50		T.			.02	.40	.41	.03		.20	.90			.92	.57	.03			T.	.27	T.	.17	.04	.04	6.50
Charleston	Great Kanawha			.10	.20		.95	1.20	T.						.64	T.	T.	.10	.28	.42		.72	.46	T.						.18	T.	T.	5.35
Creston	Little Kanawha			.30	.10		.81	.65	.04					.26	1.10	T.		.04	.84	.67		.50	.60	.07					.53		.08	T.	.03	6.62
Cuba	Sand Creek	T.	.08	.34		.21	.54	.30					T.	1.00	1.35			.46	.80			.45	.30					.20	T.	T.	T.		6.03
Davis	Monongahela		.10	.10		.20	.45				.65			.40	.45			.60	.65			.50					.60						4.70
Doane	Big Sandy						.24	.30			.20			.20	.50	.20		.30	.81		.60	.40	.40	.03						.10		.10	4.38
Elizabeth	Little Kanawha																																
Elkhorn	Big Sandy		.14	.37			.52	T.						.27		T.	.28	.14	.08			.10	.09		T.				.40	.15		T.	2.54
Elkins	Monongahela	T.	.18	.20	T.	.33	.87	.07		T.	.01		.02	.66	.18	T.		.34	.87			.75	.20		T.	T.	.02	.34	.30	.37	T.	.06	5.77
Fairmont	do		.40	.40		.42	.85	T.			T.			1.26	.65	T.		1.00				.80	.64	.20			1.16			.23	T.	T.	8.01
Glenville	Little Kanawha			T.	.25		T.	.72	1.10						.20	.75		.10	.94	.55		1.10	.80	.10				T.		T.	T.	.35	6.96
Grafton	Monongahela		.50	.40	T.	.28	.54	.38	.14	T.	.02		T.	.80	.91	.02		.51	1.09			1.10	.60					1.41	T.	.20	T.	.12	9.02
Green Sulphur Springs	Great Kanawha																																
Hinton	do							.94							.08	.04		.20	.38	.28		.80	.12		.04		.02			.38		.02	3.30
Huntington	Ohio			.14	.02		1.32	.86							.90	T.		.14	.82	.14		.38	.28	.14						T.		T.	5.14
Lewisburg	Great Kanawha					T.	.48	.93						T.	.22	T.	T.	.33	.47	.05		.81	.02	T.	T.		T.	T.	.15	.45			3.91
Logan	Guyandotte		T.	T.		T.	1.25	.50			T.			.02	.55	T.		.45	.50			.82	.50	.20					.10	.17		T.	5.06
Lost Creek	Monongahela		.21	.65		.25	.78	.20		T.	T.		T.	.35	.31	.02		.27	1.02			1.04	.42	T.				.65	T.	.15	T.		6.32
Madison	Great Kanawha																																
Mannington	do	T.	.14	.40	T.	.30	1.06	.52		.03			.08	.56	.22	.03		.12	.97			1.19	.53	.07		T.	T.	.57	T.	.21	.06	.02	7.02
Marlington	do						1.50						T.	T.	.50			.25	.32			1.00			T.		T.		.35	.40			4.32
Morgantown	Monongahela		.20	.30		.35	1.42	T.		T.			*	.52	.55	.20			1.00				1.25					.10	.27	.40	.09	.05	6.70
Moundsville	Ohio		.05	.16		.21	1.01	.38		T.			.06	.76	.63	T.	.08		.97			.48	.35				.03	.31		T.	.12		5.60
New Cumberland	do			T.		.40	.85	.25		T.			.05	.50	T.			T.	1.85			.45	.74	.06			T.	.08			.15	T.	5.38
New Martinsville	do			.39		.42	.58	.30					.10	.75	.68	T.		.42	1.18			.55	.39				T.	.10			.12		5.98
Nuttallburg	Great Kanawha			.10			.35	.10						T.	T.	.10		T.	.15			.40	.40						.38	.47		.07	2.52
Parkersburg	Ohio	T.	.15	.18		.59	1.21	.13		T.			.02	1.16	.06			.56	.78		T.	1.05	.43				T.	.06	.02	T.	.10	.01	6.53
Parsons	Monongahela			.70			1.23	.40		T.			.10	T.	T.	1.22		T.	1.21			T.	.80		.81	T.	1.01	.80	.20	.40	.01	.10	9.01
Philippi	do		.15	.60		.24	.50	.55	.10	.04	.02		.02	.48	.55	.04		.09	1.05			1.00	.50	.10			.03	.45	.04	.25	.14	.08	7.02
Pickens	do		.56	.43	.27	.18	.67	.79		.10			.10	.37	.69	.18		.59	1.06			.40	1.20				.61		.50	1.00	.20	.20	10.10
Pineville	Guyandotte																																
Point Pleasant	Ohio		.02	.30			1.30	.80						.08	1.22			.12	.70	.24		.38	T.	T.			T.	.08		T.		T.	5.24
Powellton	Great Kanawha																																
Princeton	do						1.10							.15	.10		.30	.68	1.00			.40	.15						.80	.10			4.78
Robertsburg	do			.15	.05		.98	.78	.10					T.	1.37	.03		.16	.90			.67	.50							T.	.10		5.79
Rowlesburg	Monongahela		.04	.80	.40		.34	1.10	.02		T.			.14	1.14	.12	T.	.02	.76	.84		.40	.56	.10	T.	.01		.58	.50	.38	.04	.04	8.33
Ryan	Great Kanawha		.05	.23		.16	1.27	.36		T.			.01	.46	.50	.01		.42	.94			.69	.67				T.		.08	.18	T.	.26	6.29
St. Marys	Ohio		.04	.32	.14	T.	1.10	.86	T.	T.				.20	1.10	.40		.12	.53	.32	T.	.44	.35	.25	T.			.13	.02	.05		.10	6.47
Smithfield	Fishing Creek			.28	.34	T.	.40	.31			.10			.16	.40				.69	.66		.20	.70					.49	.28	.20		.10	5.31
Spencer	Little Kanawha		.62		.35		.75		.05		T.		T.		1.00	T.			.90	.41		.71	.60	.50	.41	.20	.05			.12		.16	6.83
Sutton	Great Kanawha		T.			.40	1.60							.74	.20		.10	.40	1.00	1.24	.60											.30	6.58
Terra Alta	Monongahela		1.25	1.32		1.36	1.15			.15	.12			.92	.92	T.			.32			.34	.70	T.	T.		.52		.12				9.19
Union	Great Kanawha			.45				.55												.29		.67	.20							.55			2.71
Valley Fork	do								.20										2.00			.70		.40	.30						.30		3.90
Webster Springs	do		.20	.30		T.	.74	.30		T.	T.		T.	.40	.20	T.		.60	.72	T.		T.	.80						T.	.40	.70		.30	5.66
Wellsburg	Ohio	.05	.04	.15		.35	.80	.40		.05			.10	.60	.75			.10	.95			.65	.50	.70			T.	.20	T.	.05	.20	.05	6.69
Weston	Monongahela		.10	.50	.20		.72	.60	.14		.04			.40	.40	.06		.06	.40	.82		.80	.40	.30			.04	.18	.24	.30		.08	6.78
Wheeling	Ohio		.01	.08	T.	.01	.78	.62	T.		T.			4.21	.22	.12	T.	.20	.50	.26		.58	.58	.10	T.			.10	.04	.04	T.	.20	5.86
Williamson	Big Sandy				.08		.86	.92							.52	.10		.14	.36	.50		.60	.14	.04						.16			4.42
Ohio.																																	
Amesville	Ohio																																
Bangorville	Muskingum	T.	.04	.01		.24	.50	.10		T.			.10	.20	.33			.34	.79		.06	.58	.75	T.	T.		T.	.15	T.	T.	.15	.02	4.86
Bellefontaine	Great Miami	.06	.04			.06	.37						.21	.76	.11			.41	.22		.02		.40	T.	T.		.02	T.		T.	.10		2.78

TABLE 2.—*Daily precipitation for January, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Ohio—Cont'd.																																	
Bladensburg	Muskingum			T.		.20	.80	.15		.10			.10	.55	.05			.40	.85		T.	.50	1.00	.10			T.	.05		T.	.15	T.	5.00
Cadiz	Ohio	T.	.07	.12		.41	1.20	.22		.03			.23	1.07	.36			.32	.91			.82	.64	T.		T.	.01	.26		T.	.22	T.	6.89
Cambridge	Muskingum		T.	.10		.23	.90	.21					.10	.80	.50			.28	.62			.25	.80					.10			.10		4.98
Camp Dennison	Ohio	T.	.02	.07	T.	.11	.60	.04					.08	1.42	.17			.21	.34		.05	.21	.08	T.			T.			T.	.10	T.	3.48
Canal Dover	Muskingum			.12		.24	1.00	.20		.05			.10	.10	.60			.16	.54			.43	1.00	.10		T.		.32			.20		5.16
Canton	...do	.01	.02	.02		.14	1.08	.14		.01	.02		.28	.52	.32			.40	.44			.56	.45	.04			.05	.22			.10	T.	4.82
Cardington	Scioto					.80	.60	.20					.10	.40	.08			.23	.35			.06		.70			T.			T.	.10	T.	3.67
Cincinnati	Ohio	T.	.05	.04	T.	.34	.58					T.	.19	1.47	.02		.01	.14	.28		.25	.09	.10	.01		T.	.01	T.		T.	.13	T.	3.71
Circleville	Scioto		.03	.15		.30	.60	.15					.10	.20	.10			.38	.64		.28	.20	.10				.08			.10		3.44
Clarington	Ohio	.03	.05	.23		.23	.75	.25	.10	.03			.10	.90	.70	.01		.05	1.50			.60	.20	.05			.02	.15	.02	.05	.10	.01	6.21
Columbus	Scioto	T.	.01	.11	T.	.31	1.10	.05		T.			.25	1.09	.08		.01	.65	.20		.24	.40	.43	T.	T.		.02			T.	.14	.01	5.11
Coshocton‖	Muskingum		.05	.15		.05	1.05							.43	.85	.10		.65	.72	.30		.45	.35	.15			.01	.18				.15	5.04
Dayton	Great Miami	T.	.02	.17		.14	.47	.02					.23	1.14	.08		T.	.35			.22	.11	.13				.02			.03	.09		3.15
Delaware	Scioto	.01	T.	.07		.13	.49	.04		T.	T.		.31	.83	.16			.52	.22		.09	.42	.37	T.	T.		T.	.02	T.		.16	T.	3.84
Demos	Ohio	T.	.10	.13	T.	.37	.65	.37		.03			.07	.64	.49	T.		.24	1.23			.53	.41	.02			.02	.10	T.		.30	.02	5.60
Dennison	Muskingum	T.	.04	.11		.24	.78	.12		T.			.18	.71	.60	.04		.07	1.05			.65	.46	T.			T.	.25	.03		.13	.01	5.47
Frankfort	Scioto		.49	.05		.15	1.10	.10						.90	.30			.20	.35			.25	.20							T.	.20		4.20
Garrettsville	Mahoning			.03	.01	.12	.59	.14		.04			.11	.42	.74			.05	.93			.52	.22	.11	T.		.05	.26	.05	T.	.10	.04	4.56
Granville	Muskingum	T.	T.			.47	1.20	T.		T.			.15	1.03	.38			.40	.99		T.	.70	.40	T.	T.		.05	T.					5.58
Gratiot	...do	T.	.10	T.		.23	1.30	.30		.20			.10	1.02	.90			.43	.75			.38	.60		T.		.08	T.			.20	.02	6.64
Green	Ohio	.62		.35		.20	.73							*	2.25				1.15		*	.51	.05						T.	T.	.05	5.91
Green Hill	Muskingum	T.	T.	.03	T.	.27	.71	.07		T.			T.	.50	.68	T.		.34	.67			.55	.34	T.	T.	T.	.15	.20	T.	T.	.98	.01	4.75
Greenville	Great Miami	.12					.50					.15	.80	.61	.05			*65	.10			T.	.33								.13		3.44
Hillsboro	Scioto		.13		T.	.30	1.48	.11					.03	1.48	.26			.21	.61		.13	.43	.06				.06				.18		5.49
Ironton	Ohio			.20		.33	1.40	.10						1.07	.11			.29	.78			.53	.25										5.06
Jacksonburg	Great Miami					.23	*	.56					*	*	1.50			*	.75		T.	T.	T.				.45				.15		3.60
Kenton	Scioto	.57	.03			.16	.30	.10					.20	1.31	.33			.20	.49			.14	.40	.06				.12			.10		4.51
Killbuck	Muskingum		.05	.03		.05	1.03	.20					.04	.50	.56			.25	.95			.50	.60					.25			.15		5.18
Lancaster	Ohio		.04	.15		.30	1.60	.15		T.			T.	1.03	.40			.40	.50		T.	.65	.65	T.			T.	T.		T.	.12	T.	5.96
Lawshe	...do		.23			.31	.90	.30						1.70	.22	T.		.22	.53		.04	.42	.10							T.	.20	.10	5.27
McConnelsville	Muskingum		T.			.91	1.12	.34		T.			.02	1.62	.03			.74	.65			.71	.73				.02	.01		T.	.10	T.	7.00
Marietta	Ohio		.05	.20		.35	1.31	.18						1.03	.44	.01		.50	.85			.72	.22					T.	T.		.08	T.	6.00
Marion	Scioto			T.		.04	.53	.15		T.			.42	.80	.12			.26	.22		.35	.25	1.70					.08			.04		4.97
Milfordton	Muskingum	T.	*	.02		.10	1.00	.03					.14	.72	.45	T.		.15	.75		T.	.47	.21	T.			T.	T.			.23		4.27
Milligan	...do			.06		.22	1.35			T.			.03	1.50	.12			.65	.45			.72	.09				.09		.06		.06	.10	5.50
Millport	Ohio		.05	.03		.17	.88	.12		.02			.14	.46	.59			.20	.88			.60	.20	T.			T.	.32			.17	.05	4.88
Nellie	Muskingum	T.				.12	1.10	.06					.06	.35	.52			.26	.50			.14	.16	.06	.25	.03	T.						3.61
New Alexandria	Ohio	T.	T.		.60	1.20							1.40	.80	T.			T.	1.65			.50	T.				T.	T.		T.	.40	T.	6.55
New Berlin	Muskingum	.10	.02	.02		.27	.80	.20		.01			.20	.32	.73			.20	.77			.59	.30				.30	.05			.10	T.	4.82
New Waterford	Ohio		.10			.39	*	1.40		.10			*	*	*	1.25		*	1.35			*	*	.90			.10	.03			.30	.03	5.86
Ohio State University	Scioto	T.	.03	.12	T.	.12	.95	.04					.03	1.29	.09			.62	.31		.13	.54	.17					T.		T.	.13	T.	4.60
Pataskala	Muskingum			.17		.21	1.25	.10		.01			.16	.97	.41			.59	.58		.05	.61	.36	.01			.01	.04		T.	.15	.03	5.71
Philo(1)	...do			.07		.30	.92	.20		T.			.05	1.02	.38			.25	.56			.21	.58				T.				.07	T.	4.61
Plattsburg	Great Miami	T.	T.			.25	.60	.20					.32	1.00	.20			.66	.19		.05	.30			T.						.20		3.98
Pomeroy	Ohio		.09	.29		.30	1.59							1.10		.20		.33	.63			.64	.20				.02	.02		T.	.03	T.	5.44
Portsmouth‖	...do		.03	.20		.03	1.75	.80	.25				*	.18	1.12	.02		.08	.06	.23		.43	.23	.08			*	T.		T.	*	.07	6.46
Rittman	Muskingum	.02				.10	.50		.05	T.			.25	.10	.05			.21	.15		.05	.05	.60				.15	.10			.10	.05	2.53
Shenandoah	...do			.02		.09	.29	.18					.25	.81	.05			.30	.25		.08	.57	.22	T.	T.		T.	.11			.06	T.	3.28
Sidney	Great Miami	T.	.03			.17	.40	T.					.38	1.09	.05	*		.42	.22		.05	.16	.20				.02	.01		T.	.08	.02	3.30
Somerset‖	Muskingum	T.	T.	.05	T.	.07	.99	.33		*	T.			.08	1.15	T.		.15	.26	T.	*	.40	.62	.20			T.	T.		T.	T.	.13	4.43
Springfield	Great Miami	T.	.03	.14		.16	.47	.02					.28	1.10	.10			.43	.35		.09	.33	.20				T.			T.	.14	T.	3.84
Summerfield	Ohio	T.	.06	.17		.20	1.35	.34		.01			.09	.90	.44			.14	1.21			.68	.63	T.		T.	T.	.19			.12	T.	6.59
Thurman	...do		T.	.22			.60	.30						.80	.18			.25	.65			.40	.20				T.	.72	T.	T.	T.	T.	4.32
Urbana	Great Miami			.12		.07	.40	.09					.18	.32	.15		.05	.18	.56		.08	.16	.28				T.				.21	.10	2.95
Warren	Mahoning	T.	T.			.22	.82	.25		.12			.35	.36	.25			T.	.54			.62	.53	T.			T.	.53				.23	T.	4.82
Waverly	Scioto		.22		*	.30	1.91	.12					.09	1.20	.30		*	.63	.85		T.	.55	.27					.01		.05	.15	T.	6.65
Waynesville	Great Miami			.12		.48	.14						.55	.90				.50	.17			.09	.05				.10				.10		3.20
Wooster	Muskingum	.02	.04			.25	.50	.30		.10			.05	.39	.58			.15	.81			.32	.80	T.	T.		.62	.16			.20		5.29
Youngstown‖	Mahoning					*	.76	.10	*	.06	.10		*	.10	.81				.90	.04		.35	.22	.40	.20			.17	.04		.20	.12	4.57
Zanesville‖	Muskingum		*	.12	T.	T.	.98	.51		*	T.		*	.33	1.20	T.		.10	.65	.10		.42	.28	.04	T.		T.	.05	T.	*	T.	.07	4.85
Virginia.																																	
Big Stone Gap	Tennessee	T.	T.	.12		T.	1.20	T.						.46	T.			.10	1.25			.90	.20	T.				.07			.15		4.35
Blacksburg	Kanawha					T.	.75	.33		T.				T.				.33	.26			.92	T.				.05			.39	.30	T.	3.33
Burkes Garden	Tennessee			T.			.85							T.				.50	.46			.68						.20	.40		.10	3.19
Elk Knob	...do	T.	.04	T.		.08	1.29	.50						.40	.05	.03		.30	.90	.02	.01	.77	.30	.01				.20		T.			4.90
Galax	Kanawha					T.	.20	.92							T.			.30	.05			1.00	T.					.40	.70		T.	3.57
Ivanhoe‖	...do		T.	.08			.05	1.00						.08				.10	.03	.18		1.00	.05	T.	T.			T.	.49	T.		3.06
Lebanon	...do	.04	.02				1.12	.01						.03		.43	.70					1.12	.21	.40				.45	.25			4.57
Marion	Tennessee			T.			.23	.90										.52	.41			.68	.40					.30	.20		.20	3.84
Max Meadows	Kanawha			T.			.65	.14						.13	.12			.11	.17			.85	T.					.65			T.	2.82
Mendota‖	Tennessee		.12					1.02							.55			.15	.02	.70		1.30	.34	.10					.36			4.66
Radford‖	Kanawha														.06			.12	.22	.10		1.04	T.						1.00			2.54
Speers Ferry‖	Tennessee						.16	1.60							.28			.36		.96		1.36	.30		T.				.50			5.52
Wytheville	Kanawha		T.	T.			.79								.12			.11	.28	.01	.12	.85	T.						43		.01	2.72
North Carolina.																																	
Andrews	Tennessee	.08	.03				1.40	.27							.42				.54			.73		.21	.10		.02		.15				3.95
Asheville	...do			T.		T.	.95	T.							.01	T.	T.	T.	.30		.30	.49	T.	T.					.37		T.	2.42
Banners Elk	...do	T.					1.00	T.							.10	T.		.30	.45			1.35	.40	.10					.20	.80	.10	T.	4.80
Brevard	...do					.04	1.08	.79							T.				.21					T.		T.	T.		.30				2.42
Bryson City‖	...do						.37	.98										.28		.79		.42	.04		.11					.23			3.22
Cullowhee	...do						.84	.64							.11			T.	.34			.31	T.		.05		T.			.25	T.			2.54
Hendersonville	...do																																
Highlands	...do	T.				.05	3.10								.02			T.	.50			1.10		.10			.20		.60				5.67
Hot Springs	...do						.77	.37							.29	.02		.05	.50			.57	.12							.47	.60		T.	3.76
Jefferson	Great Kanawha	T.				T.	.25	T.							.13			.65	.20		1.08	T.							.29	.18	T.	T.	2.73
Marshall	Tennessee						.52												.26			.60	.10							.25	.25			1.98
Murphy‖	...do	.40						.98					.50							.30	.20	.98	.40	.20	T.					.40			4.36
Rock House	Savannah					.01	2.28								.11		T.	T.	.45		1.20	T.		.12					.70				4.87
Waynesville‖	Tennessee						T.	.06	1.70							.18			T.	T.	.36		.68	T.	.03						.33			3.34
Georgia.																																	
Diamond	Tennessee	.04	.10			T.	1.30	.24						*	.12		T.		.37		*	.19		.22					.90	.20			3.68
LaFayette	...do			.14			1.72											.07	.41		.21	.28								.19			3.02
Alabama.																																	
Bridgeport‖	Tennessee						1.00	1.22							.27					1.10		.50			.05									4.14
Decatur‖	...do				T.		2.15	.75							.33		T.		.06	.75		.42		T.	.03								4.49
Florence	...do					1.42	1.46							.32	.03				.72		.68												4.63
Guntersville‖	...do	T.	T.				1.40	.94							.18					.58		.72	.04		T.								3.86
Madison	...do						25	1.50						.27					.80		.50		.07										3.39
Riverton‖	...do						48	2.42	T.						.30				.58	.29		.72											4.79
Scottsboro	...do						18	2.25							.20				.60		.39	.16	.02	T.	.05								3.85
Tuscumbia‖	...do						20	2.59	.10						.22				.42	.50		.74											4.77
Tennessee.																																	
Ashwood	Tennessee			T.	T.	1.20	1.25							.22	.05		T.		.40		.50												3.62
Benton	...do	.02	T.			T.	1.22	.16							.12		T.	T.	.78			.83	.21	.28					.18				3.80

TABLE 2.—*Daily precipitation for January, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Tennessee—Cont'd.																																	
Bird's Bridge	Tennessee				.02		T.	.95							.29	.05		.08	.05	.65		.48	.20	.02					.39			3.88
Bluff City	do							1.10						.35				T.		.74		.96	.06					.56			3.77
Byrdstown	Cumberland					*	3.00							*	.15			.15			.15	.10	.20	.02								3.77
Carthage	do				.04	2.04	.08								.70			.17	.59	.30		.20	.12	.04	.08								4.36
Cedar Hill	do		T.	.25	T.	.80	1.20							.50			T.	T.	1.20		.20	.05		.25		T.	T.						4.45
Celina	Cumberland				T.	.05	1.65	.30							.38			.18	.68	.36	.20		.08	T.									4.08
Center Point	Tennessee					1.03	1.50	T.							.30				.85	T.				T.									3.68
Charleston	Tennessee					T.	.20	1.20							.10			.05	T.	.90		.90	T.		.20				T.				3.55
Chattanooga	do	T.	T.			.17	1.68							.09	.01		.01	.01	.55		.54	.05	.01	.16									3.28
Clarksville	Cumberland		T.	.03	T.	1.15	2.00	.04						.65			.06	.04	1.00		.20	.08		T.									5.25
Clinton	Tennessee						1.30	1.50							.35	T.	T.	.05	.10	.75		.85	.15	T.	.30								5.35
Dandridge	do						.10	.90							.42			.08		.60		.70	.16	.12	.04				.24			3.36
Decatur	do	T.	T.	T.		.15	1.73	.18							.30			.07	.75		.01	.83		.15	.03			.01					4.21
Dickson	Cumberland			.88		1.13	.30							1.50				.12	1.34		.25												4.92
Dover	do		T.		T.	1.66	1.20							.72			T.	T.	1.16		.21	T.		T.									4.95
Dunlap	Tennessee					.22	1.90								.26			.05	.55		.20	.48	.11	.07									3.84
Elizabethton	do																																
Erasmus	Cumberland	T.		.02		.72	1.62	.02						.21	.31		T.	.23	.99		.20	.32	.17	.20			T.						5.01
Florence	do			.05		.95	1.60							.22	.12		T.	T.	1.25		.25	.05	T.	.08									4.57
Franklin	do			T.	T.	.80	1.40	T.						.31	T.	T.	T.	T.	1.04		.50	.11		.05									4.21
Hall's Hill	do	T.			T.		2.12	.37							.25			.13	1.02	.45		.50	.03		.17								5.04
Harriman	Tennessee					*	2.55							*	.21		T.	T.	.70		1.10		.05	T.	.16								4.77
Hohenwald	do				.55	1.55								.40			.06		.68		.43	T.		.06									3.73
Iron City	do					2.24	.27							1.20				T.	.81		.62			T.									5.14
Jefferson City	do					.04	.89							.13				.15	.70			.60		.03					.36				2.90
Johnsonville	do			T.	T.	1.56	1.30							.58			T.	.01	1.16		.22	.02		.04									4.89
Jonesboro	do																																
Kingston	do				T.		1.15	1.53							.20			.07	.04	.54		.77	T.		.05								4.34
Knoxville	do			T.		.29	1.45	T.						.08	T.		T.	.04	.76		.37	.52	.01	.08			T.		.06		T.		3.66
Lebanon	Cumberland																																
Lewisburg	Tennessee		T.	.06		1.42	1.68	.02						.22	T.		T.	.01	.92		.50	.06		.06									4.95
Loudon	do						.70	1.52							.07			.03	.03	.70		.90	T.		.20								4.15
Lynnville	do		T.	.23		.25	.23	T.						.31				.81			.41	.16											2.40
McGhee	do						.15	1.17							.15			.04		.73		.93	.05		.13				.23				3.58
McMinnville	Cumberland	.01	T.	.02	T.	.51	1.60	.01						.11	.06	T.	T.	.07	.82		.11	.30	.07	.14	.01								3.84
Maryville	Tennessee	T.	.02			.03	1.00	.03									T.	.15	.88			.83	.05		.03				.30				3.32
Mountain City	do						.45	.77							.65			.15	.65			.50	.35						.30	.30			4.12
Nashville	Cumberland			.01	T.	1.03	.89							.32	T.		.14	T.	.89		.10	.03		.04									3.45
Newport	Tennessee						.75								.25			T.	.85			.65							.50				3.00
New River	Cumberland				.12		3.10	1.17							.41				.62	.38		.84											6.64
Palmetto	Tennessee			T.		.75	1.75							.20	.20		T.	T.	.75		.40	.07		.05									4.17
Pinewood	do			T.	.03	.80	.85							.47	.05		T.	.06	1.80		.22	.05		.11									4.47
Pope	do				*	2.20	.20											*	.40		.40											3.20
Rogersville	do				T.		.08	.78							.18	T.		.18	.06	.68		.86	.02	.01	.04				.24				3.13
Rugby	Cumberland					1.50	2.70	.20						.20	.15			.25	.90			.40	.30										6.60
Savannah	Tennessee					2.20	.15							.90					.80		.40												4.45
Sevierville	do						.81	.19							.11			.08	.90			.84	.10					.08	.31				3.42
Sewanee	do					*	1.50	.05											61		.57	.40											3.13
Sparta	Cumberland	T.	T.	T.		.12	T.							.10	T.		T.	.05	1.45		.05	.30	.10										2.17
Springdale	Tennessee					.25	1.50	1.07									T.	.55	1.10			T.	.05	.10	.50			.10		T.	T.		5.22
Springville	do			.05	.02	1.72	1.58							.67			.05	.04	1.01		.23	.07		.03									5.47
Tazewell	do				T.		.75	1.30							.10	T.		.20	T.	1.18		.80	.15	.05	.05				.10				4.68
Tullahoma	do					.56	2.02	.02						T.	.14		T.		.70		.15	.40	.05	.10	.13								4.27
Walling	Cumberland						2.00	.70							.15			.12		1.04		.40	.05		.15								4.61
Waynesboro	Tennessee		T.	T.		1.50	1.25	.03						.37	.02	T.	.02	T.	.92		.55	T.		.10									4.76
Wildersville	do			T.	2.40				1.00					.31					1.04		.36												5.11
Worsham	Cumberland						1.70	.23							.36			.13	1.15	.21	.04	T.	T.										3.82
Yukon	Tennessee	T.				1.00	1.25							.40	.16		T.		1.00		.24	.21		.15									4.41
Kentucky.																																	
Alpha	Cumberland			T.		T.	2.75							.75	T.				1.20		.70			.40									5.80
Anchorage	Ohio					.46	1.10							1.03			.05		.87		.25	.10	T.						.05				3.93
Bardstown	Salt		T.	.25		.19	.35	.30						.42	1.05			.20	.97	.05		.20							T.				3.98
Beattyville	Kentucky						2.12	.94						.04	.34	T.		.26	.72	.12		.68	.36	.36						.04			5.98
Beaver Dam	Green		T.	T.			2.11	.40						.16	.50			.30	1.15		T.		.23							T.			4.85
Berea	Kentucky	T.	.01	.03		.71	.35	.09						.33	.10		T.		.94			.12	.52							T.	.02		3.22
Bowling Green	Green				.02	.15	1.20	.20						T.	.32			T.	.35	.02		.10	.15										2.51
Burnside	Cumberland			T.	.04		2.50	.56	T.						.56	T.		.22	.66	.40		.36	.10	T.	.10								5.50
Cadiz	do																																
Calhoun	Green		T.	.06		1.00	1.29							.78	T.	T.	.03	.04	1.34		.08	.14				T.					T.		4.76
Catlettsburg	Big Sandy			.12	.02		1.24	.90	T.					.02	.92	.02		.14	.70	.14		.40	.28	.04					.04		.02		5.00
Earlington	Green			.01	T.	.85	1.70	.06						.08	.55			.12	1.10			.13	.08										4.68
Edmonton	do		T.	.01		.51	1.10	.04									.04	.15	1.04		.18	.20	.10	.10			T.						3.47
Eubank	Cumberland			.09	.02		.93	.44							.67		T.	.25	.96	.41		.32	.45	.03	.02		T.						4.59
Falmouth	Licking		.03	.15	.02	.10	.97	.26						.50	.74	T.	.03	.70	.08		.25	.08	.02							.15	.05		4.15
Farmers	do		.04	.15		.41	1.86	.06						.75	.24			.31	1.16		T.	.66	.12				T.			T.	T.	T.	5.76
Frankfort	Kentucky			.20		.48	.52	.21						.25	.55	T.		.08	.91	.07		.26	.12	T.				T.			.08	T.	3.73
Franklin	Green		T.		T.	.75	.99							.87	T.		.04	.16	.90		.20	.03		.18									4.12
Greensburg	do			.05	T.	T.	1.40	1.30						.02	.91	T.		.11	.83	.28		.38	.10										5.38
High Bridge	Kentucky			.07	.01	.08	1.30	.30	T.					.14	.66			.18	1.06	.16		.43	.15	.01									4.55
Hopkinsville	Cumberland		.10	.10	T.	2.00								.85				.12	1.00		.20			.25									4.62
Irvington	Ohio		T.	T.	T.	.53	1.44	.04						.89	T.		.10	T.	.85		.15	.15	.02							T.	T.		4.17
Leitchfield	Green				*	1.50	.20							1.01			*	.80	.73		.25	.03		.04									4.36
Lexington	Kentucky		.11	.05	T.	.73	.81	.01						.79	.02	T.	.07	.12	1.08		.35	.13	.15	T.			T.				.01	.03	4.46
Loretto	Salt		T.	.16		.40	.92							.55	T.		.03	T.			1.24		.10	T.								T.	3.40
Louisville	Ohio		.01	.01		.53	.69						.03	.85	T.	T.	.03	.15	.71		.16	.04	.01	.01			T.				.02	T.	3.25
Marion	do			T.		.70								.86			.12			1.99													3.67
Maysville	do		.02	.20	.06	.02	1.50	.52						.24	1.37	T.		.03	.89	.22		.42	.05	.14				T.			T.	.10		5.78
Middlesboro	Cumberland	.06				13	2.35	.10							.35			.32	.80			60			.27								4.98
Mt. Sterling	Licking			.20	T.	T.	1.20	.70						.55	.70			.25	1.10	.23		.65	.15	.10								T.		5.83
Owensboro	Ohio			.07		.33	.37	.03						.13	.31			.10	.80			.15												2.29
Owenton	Kentucky		.48			.25		1.25				.10			1.25						1.25									.20			4.78
Paducah	Ohio	T.		.10		.80	.70								.04			.04	1.76		.06	.04											3.54
Pikeville	Big Sandy				.04		1.10	1.08	T.						.08	.02		.50	.20	.50		.30	.30	.10					.10	T.			4.32
Richmond	Kentucky			.16	.05	T.	1.98	.52						.14	.57	.04		.18	1.20	.27		.40	.14	.04		T.		T.			T.	T.		5.69
St. John	Salt			.07		.30	.85	.20						.24	.60			.10	1.20			.40	.18	T.							.02			4.16
Scott	Licking	T.	.03	.09	T.	.13	.66	.15					.05	1.47	.08			.11	.28		.38	.04	.10				T.			T.	.10	.02		3.69
Shelby City	Kentucky		T.	.03		.30	2.00	.17						.70	.10			.32	1.52		.12	.20	.10									T.		5.56
Shelbyville	Salt	.03		.08		.23	*	.75						.08	.64			.05	.98			.40	.10	.25							T.	T.		3.59
Taylorsville	do		T.			.52	.78							.75	.03		T.	.13	1.22		.20	.13		T.			T.				.04	T.		3.80
Williamsburg	Cumberland						2.52	1.03	T.						.23			.22	.32	.42		.50	.12	.06										5.42
Williamstown	Licking		.03	.11		.06	1.20	.25						.35	.65	T.		.07	.53	.06		T.	.30	.06							.03	1.02		4.72
Indiana.																																	
Anderson	West Fork, White					.35	.05						.54	1.17	.02		.03	.32	.60		T.	.27	T.				.02				.05	T.		3.42
Bloomington	do	.07	.03	.17		.51	.35						.01	.70	.40	T.		.13	.93	.02		.20	.20						.01			.18	.04		3.95

TABLE 2.—*Daily precipitation for January, 1910. District No. 8*—Continued.

Stations.	River basins.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Indiana—Cont'd.																																	
Bluffton	Wabash					.44							.54	1.06	.16			.12	.60														2.92
Butlerville	East Fork, White			.18		.14	.85						.11	1.72	.04		.06	.13	.32		.17	.15	.22	.12							.34	.07	4.63
Cambridge City	Whitewater	.01		.15		.10	.40	.03					.09	.94	.48	.03	T.		.61	.04		.05	.10	.05				T.			.07	.08	3.23
Columbus	East Fork, White			.10		.26	.55	.05					T.	.80	.24			.11	1.45			.05	.20								.20		4.01
Connersville	Whitewater	.05	T.	.16	T.	.14	.34	.03					.38	1.05	T.		T.	1.04	.38		.07	.03	.12	.06			T.		.02		T.	.13		4.03
Delphi	Wabash			.05		.40							.36	.84	.39		*	.05	.37			.04	.08				T.		.05		T.	.09	.02	2.74
Eminence	West Fork, White		T.			.05	.03						.50	.80	T.			.12	.04			.02										.60	T.	2.19
Evansville	Ohio		.01	T.	T.	.88	.17						.17	.67	T.		.08	.16	.24		.07	.08				T.	T.				.08	T.	2.59
Farmersburg	Wabash			T.									.34	.60				.20	.12												.14		1.40
Farmland	West Fork, White			.05		.18	.30						.20	.90	.58	.02		.05	.82			.14	.25						.02		.04	.03	3.58
Greenfield	East Fork, White	T.				.35	.30						.34	.95	.05		T.	.28	.43		.05	.10					T.				.10	T.	2.95
Greensburg	...do	T.	.04		.34	T.	.67						.19	1.45	.03		T.	.21	1.03		T.	.30	T.				T.				.23		4.49
Heltonville	...do																																
Huntingburg	Wabash					.65								1.05			.05	.04	.57		.07	.21	.11								.13		2.88
Huntington	...do	T.		T.		.20							.60	.90	.07		.30	.20			T.	T.					.10	T.			.05		2.42
Indianapolis	West Fork, White	.01	.02	.02	.02	.40							.61	.65	.01		.01	.54	.03		.08	.11	.01				T.			T.	.10	T.	2.62
Jeffersonville	Ohio		T.	.03	T.	.36	.77	.01						.90	T.	T.	.02	.05	.76		.17	.02	.01	.01			T.				.05	T.	3.16
Judyville	Wabash	T.			T.	.50							.04	T.	.01		T.	.25	T.			T.				T.	T.				.08		0.88
Kokomo	...do				T.	.18	T.						.95	.97	.10		T.	.36	.31		T.	.10	T.				T.		T.	T.		2.97
Lafayette	...do		T.	T.		.35				T.			.36	.88	.17	T.		.05	.36			.03	.04					T.		T.	.09	T.	2.33
Logansport	...do																																
Madison	Ohio		.06			.12	.69	.05					T.	1.39	.01			.17	.57		.15	.20	.18	.10							.05	T.	3.65
Marengo	...do					.45	.80							.90				*	.95		*	.25	.10								.40	T.	3.85
Marion	Wabash			T.		.51	T.						.83	1.09	.15			.32	.51			.13					.15	.06		T.	.10	.10	3.95
Markle	...do	T.		T.		.20				T.			.40	.75	T.			.50		T.	T.				T.	T.			T.	T.	T.		1.85
Mauzy	East Fork, White	T.	.01	.14		.27	.40						.30	.98	.13		T.	.34	.42		.05	.10	.05				T.				.18	.04	3.41
Moores Hill	Ohio			.04		.10	.60						.08	1.46	.07			.19	.12		.08	.10	.15	.05	.05		.09				.18		3.36
Mount Vernon	...do																																
Paoli	East Fork, White					.39	.49							1.08			.05	.06	.48		.08	.13	.04								.16		2.96
Princeton	Wabash					.85								.95																	.04		1.84
Richmond	Whitewater	.03	.07	.04		.27	.28						.35	1.01	.06		.03	.40	.11		.11	.10	.06				T.			T.	.12		3.04
Rochester	Wabash					.03				T.			1.00	.72				.25	.23			.30					.02			T.	.12	T.	2.67
Rockville	...do				T.	.42	T.						.72	.36	.02		T.	.21	.12		T.	.04				T.				T.	.06		1.95
Rome	Ohio		.02	.05		.40	1.34							.84	T.		.02	.05	1.43		.09	.13	T.	T.						T.	T.	3.37
Salamonia	Wabash			.03		.18	.25						.50	1.12	.14			.27	.61		T.	.07	.16					.05		T.	.06	T.	3.44
Salem	Ohio		T.	.05		.37	.50						T.	1.36	T.	T.	.05	.18	.87		.10	.18	.09								.25	T.	4.00
Scottsburg	East Fork, White			.08		.15	.70						T.	1.12	T.		.10	.06	.57		.16	.10	.10	T.							.25		3.33
Seymour	...do		T.			.49	.56						.10	.99	T.	T.	.04	.15	.23		.05	.06	.16				.01				.25	T.	3.09
Shelbyville	...do	T.	T.	.18	T.	.35	.41						.35	1.15	.02		T.	.36	.47		.07	.20	.05			T.	T.	T.			.16	.01	3.78
Terre Haute	Wabash				T.	.16	T.						.76	.84	.02		.02	.42	.20			.10	.02								.04		2.58
Veedersburg	...do	T.	.02	T.	T.	.35							.71	.73	.05		T.	.25	T.		T.	.10	T.							T.	.20		2.41
Vevay	Ohio		T.				*	*	.90				*	1.75			T.	.10	.30		*	.20	.30								.30		3.85
Vincennes	Wabash		T.	.15	T.	.50	.45							.75	.35	T.		.15	.80			.10	T.				T.				.25		3.50
Washington	West Fork, White		.04	.04		.50	.45							.70	.25			.12	.20			.10									.28		2.68
Whitestown	...do					.52	.04						.46	1.04	.01		T.	.33			T.		.10			T.	T.				.09	T.	2.59
Winona Lake	Wabash	T.				.37	T.			T.			.15	.91	.03			.15	.25			.05			T.		.05	T.		T.	.10	.03	2.09
Worthington	West Fork, White	T.		.15		.50	.26						T.	.71	.33			.08	.62			.20	.10								.13		3.08
Illinois.																																	
Albion	Wabash		T.		T.	.48	.40						.15	.88			.08	.08			.18	.10									.20		2.55
Charleston	...do	.01	.02		.36	.22							.48	.51	T.		.02	.32			T.	.01								.02	.04		2.01
Equality	...do		T.	T.	.10	.35	.65						T.	.67	T.	T.	.07	T.	.37		.01	T.									.15		2.37
Fairfield	Ohio						.49						.52	.86			.06		.30		.06										.11		2.40
Flora	Wabash																																
Golconda	Ohio			.03	T.	.69	.53							.53			.06	T.	1.08		.16												3.08
Hoopeston	Wabash			T.	.02	.95				.01			.97	.49	.05		.01	.25	.06			.05				T.					.12	.01	2.99
McLeansboro	...do					.70	.41							.52			.06	.70			.52	.05									.13		3.09
Martinsville	...do				.50	.13							.25	.30	T.		T.	.10			T.	T.								T.	.05		1.33
Mt. Carmel	...do	T.		.06		.60	.80							.76	.20	T.		.12	.32		T.	.22	.06								.30	T.	3.44
New Burnside	Ohio				1.20									.92			.40		.54											T.		3.06
Olney	Wabash		.12		T.	.71	.14						.60	.72	T.		.11	.16	.22		T.	.05									.14		2.97
Palestine	...do				T.	.60	.23						T.	.87			T.	.20	.21		.40	T.						T.			.30		2.71
Paris	...do	T.	T.			.60							.20	.90				T.	.65		T.	.15									.10		2.60
Philo	...do	T.			.08	.55							.51	.52	T.		.05	.47				T.									.08		2.26
Rantoul	...do			T.	T.	.95				T.			.85	.43	.03			.13	.02							T.	T.				.09	T.	2.50
Robinson	...do				.50	.20						.05	1.05	T.		T.				.25	.10										.10		2.25
Sumner	...do						.30						T.	.51			T.	.17	.42		.10										.10		1.60
Tuscola	...do	T.		.05		1.00							.22	.66	.09			.06	.34			.06									.20		2.68
Urbana	...do			T.	T.	.67			T.				.94	.28	T.		T.	.12	.02		T.	T.					T.			T.	.20		2.23

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 3, Ohio Valley.*

Date.	Pennsylvania.				West Virginia.																Ohio.							
	Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.‡‡		Morgantown.		Parkersburg.		Wheeling.‡‡		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	40	5	46	30	41	27	48	25	51	15	46	15	58	38	45	29	52	29	50	19	40	20	53	34	46	28	44	32
2...	42	30	48	35	57	35	52	38	55	45	57	37	62	42	50	39	53	40	46	34	42	32	54	37	46	33	47	33
3...	31	22	37	16	65	37	60	42	56	26	59	34	58	18	47	32	45	24	39	36	32	15	39	18	36	15	36	22
4...	22	3	30	7	37	20	48	25	29	14	35	16	47	18	32	8	26	14	39	9	19	4	27	14	23	8	23	10
5...	38	16	46	28	52	20	57	27	46	27	50	24	53	30	47	18	45	26	45	2	40	18	48	24	42	23	42	23
6...	38	16	41	20	48	33	61	35	41	33	42	32	51	15	45	36	40	19	28	27	34	15	24	15	23	14	31	13
7...	21	2	20	8	33	16	50	14	35	10	33	16	19	5	37	13	19	5	21	14	16	4	19	4	15	6	16	3
8...	26	−10	30	8	33	8	40	12	37	4	37	1	32	5	32	9	32	1	32	− 5	26	1	34	6	27	5	32	8
9...	24	− 4	28	13	33	16	46	14	33	13	37	10	32	9	31	18	27	9	28	− 5	23	10	27	12	26	9	27	10
10...	26	− 2	24	12	31	12	28	10	23	10	31	4	28	9	24	10	26	1	28	− 2	22	− 1	26	1	22	− 3	26	− 4
11...	27	− 7	36	10	45	16	41	15	42	7	43	10	42	14	37	9	39	10	39	− 2	30	1	41	15	35	12	36	11
12...	38	26	38	33	45	30	45	17	42	25	40	24	39	28	40	33	40	33	39	− 1	34	30	40	34	37	33	37	34
13...	33	29	45	35	45	35	50	36	39	31	40	31	45	34	38	32	43	34	40	33	34	30	45	35	39	33	41	34
14...	35	27	42	32	45	34	51	28	40	29	39	24	36	26	42	32	43	28	38	34	36	24	37	26	37	22	40	25
15...	33	17	38	24	36	31	38	25	30	24	34	26	31	26	33	24	30	26	33	26	32	22	32	26	30	21	30	24
16...	29	17	36	19	44	29	46	30	43	11	43	26	40	28	38	22	39	26	37	26	26	21	37	27	30	25	33	25
17...	37	30	43	29	47	34	44	33	47	29	43	26	51	27	.....	.....	48	31	48	25	37	23	51	33	43	30	42	32
18...	43	34	50	35	56	40	58	39	55	32	59	39	52	29	51	36	51	35	50	34	43	31	52	35	47	32	49	34
19...	37	25	39	29	51	32	45	29	41	28	48	31	50	29	41	29	46	31	44	29	36	24	52	32	44	27	47	27
20...	44	19	51	37	58	30	58	33	61	26	59	24	51	32	53	36	56	35	51	28	44	32	47	36	44	35	44	37
21...	40	31	43	29	58	31	38	25	43	27	52	32	33	21	46	30	40	27	37	33	38	26	36	23	37	22	37	24
22...	33	18	29	20	34	22	51	15	27	19	33	22	37	21	33	20	27	24	24	22	26	16	27	22	27	20	26	22
23...	31	18	38	22	45	26	53	12	39	18	42	15	43	35	39	21	41	24	38	22	34	18	48	26	40	22	42	21
24...	35	25	35	26	41	33	52	15	37	27	41	25	39	26	39	26	39	29	37	24	32	18	35	28	32	23	36	22
25...	34	11	32	24	39	27	55	19	29	17	40	22	40	25	31	24	34	24	38	25	31	21	39	27	33	25	36	22
26...	42	11	49	26	58	32	53	28	51	15	56	29	58	38	53	18	55	30	49	20	44	21	62	36	52	29	56	32
27...	42	29	42	32	58	40	54	28	50	30	56	37	42	28	49	32	49	35	36	30	40	30	43	34	37	33	44	33
28...	41	28	39	31	43	34	47	26	36	29	39	32	38	31	36	30	36	32	36	32	33	28	40	31	36	31	35	29
29...	31	21	31	24	39	30	32	25	29	34	34	29	37	25	31	23	32	28	35	24	30	21	38	29	33	24	32	27
30...	31	21	36	25	39	29	52	24	41	16	44	18	45	26	42	25	36	29	35	26	31	23	35	26	34	24	34	26
31...	33	18	30	19	38	27	49	17	32	20	40	20	30	15	35	23	31	23	34	24	27	19	30	21	24	16	29	18
Mns	34.1	16.6	37.8	23.8	45.0	27.9	48.2	24.2	40.6	22.0	43.6	23.6	42.5	24.3	39.9ᵃ	24.6ᵃ	39.4	24.6	37.9	20.7	32.6	19.3	39.3	24.7	34.7	21.8	36.5	22.9

Date.	Ohio.				Virginia.				Asheville, N. C.		Decatur, Ala.‡‡		Tennessee.														Beattyville, Ky ‡‡	
	Marion.		Waverly.		Big Stone Gap.		Wytheville.						Chattanooga.		Jonesboro.		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	43	28	44	24	36	15	44	28	55	24	63	26	58	39	.....	.....	55	39	61	46	60	40	58	40	62	45	58	3
2...	44	32	53	36	40	34	54	44	67	44	63	41	62	55	.....	.....	61	53	65	61	63	58	60	45	65	59	63	31
3...	35	20	46	31	55	38	56	36	66	39	69	56	67	43	.....	.....	64	39	62	34	62	35	62	55	63	33	58	48
4...	26	6	32	14	50	32	40	27	55	36	65	37	58	38	.....	.....	50	37	61	30	58	32	61	35	59	33	50	20
5...	38	18	44	23	41	35	55	22	47	27	55	40	50	41	.....	.....	58	38	59	31	60	44	53	46	61	36	54	22
6...	35	12	40	16	58	34	60	46	53	40	50	35	49	20	.....	.....	48	24	31	10	44	17	47	40	36	16	32	29
7...	22	6	19	9	50	27	48	17	40	17	29	10	32	13	.....	.....	28	15	23	7	26	4	40	25	26	5	25	10
8...	29	− 1	34	−13	41	16	37	13	38	11	34	14	44	19	.....	.....	38	18	35	9	38	9	38	9	37	8	37	0
9...	24	13	33	− 4	40	17	38	15	58	18	41	19	45	26	.....	.....	43	21	37	16	40	16	37	15	39	16	34	3
10...	26	− 2	30	−15	44	14	32	13	44	16	42	21	39	22	.....	.....	35	20	37	16	44	15	44	15	46	18	35	2
11...	31	10	41	− 2	45	13	46	14	49	15	51	21	47	23	.....	.....	44	20	50	22	48	25	51	18	50	24	42	2
12...	35	29	37	26	49	25	44	23	54	23	58	21	51	28	.....	.....	52	28	57	32	57	29	56	25	58	29	51	9
13...	36	32	37	33	52	33	47	31	53	33	60	32	60	36	.....	.....	56	38	56	40	58	42	58	36	58	47	50	27
14...	35	22	41	31	51	32	42	29	48	27	59	34	53	32	.....	.....	52	33	40	31	53	32	51	28	50	32	35	33
15...	30	20	32	24	32	28	32	21	30	26	33	30	36	30	.....	.....	34	30	36	30	34	28	42	24	32	29	32	26
16...	31	24	36	25	41	20	44	15	46	17	48	27	41	28	.....	.....	40	28	43	28	42	24	52	31	42	26	44	26
17...	36	26	38	31	40	33	40	33	48	35	62	32	52	38	.....	.....	45	36	60	39	58	39	52	31	59	42	53	28
18...	40	34	47	36	55	38	56	32	54	34	59	48	62	37	.....	.....	61	35	60	39	60	34	60	35	61	35	51	34
19...	45	23	51	23	50	27	44	29	50	31	57	28	57	33	.....	.....	52	32	59	37	58	28	54	24	58	26	57	20
20...	43	32	51	29	53	28	52	27	46	25	49	27	50	35	.....	.....	48	33	51	38	49	38	49	31	47	35	54	22
21...	38	28	42	27	48	28	42	24	39	19	36	32	44	22	.....	.....	41	22	38	21	40	26	43	23	45	28	31	26
22...	28	17	29	21	28	18	24	17	24	15	40	22	35	21	.....	.....	29	20	38	20	39	21	37	18	39	20	26	18
23...	41	18	46	21	22	7	39	20	42	16	53	31	39	32	.....	.....	35	19	48	35	45	28	36	25	54	28	44	9
24...	37	22	41	28	43	22	38	32	42	31	48	34	49	35	.....	.....	44	32	48	28	51	27	40	30	52	25	38	15
25...	35	28	38	23	43	22	40	23	49	26	58	26	48	27	.....	.....	44	25	53	26	57	22	48	20	59	24	46	16
26...	48	20	58	29	49	29	52	27	36	30	66	28	62	37	.....	.....	58	33	69	50	66	48	62	34	68	49	58	17
27...	49	31	55	35	54	36	51	36	55	35	60	32	60	44	.....	.....	58	40	56	37	59	34	58	30	56	32	47	37
28...	35	30	38	31	49	28	37	27	38	28	68	35	46	37	.....	.....	40	33	47	33	49	29	48	29	48	33	40	22
29...	33	23	36	29	40	28	30	26	38	26	57	33	52	31	.....	.....	45	29	51	27	54	25	49	22	56	24	44	26
30...	33	26	36	26	49	23	44	13	52	21	56	26	55	35	.....	.....	53	28	46	30	50	31	52	27	46	33	50	21
31...	35	18	35	24	47	24	34	18	37	20	49	24	42	28	.....	.....	34	25	37	23	43	20	30	20	41	19	29	24
Mns	35.4	20.8	40.0	21.7	45.0	25.9	43.3	25.1	46.9	26.0	52.8	29.7	49.8	31.8	.....	.....	46.6	29.8	48.8	29.9	50.5	29.0	49.9	28.6	50.7	29.3	44.1	20.2

TABLE 3.—*Maximum and minimum temperature at selected stations, January, 1910. District No. 8*—Continued.

Date.	Kentucky.														Indiana.												Illinois.	
	Bowling Green.		Earlington.		Greensburg.		Lexington.		Louisville.		Mayesville.		Williamsburg.		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.		Philo, Ill.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 ..	58	23	60	30	61	15	51	35	56	39	53	18	67	18	48	32	55	40	46	32	41	27	42	32	40	18	39	26
2...	61	44	56	33	61	41	57	43	56	38	54	36	65	41	50	34	52	35	43	32	41	29	37	32	46	34	36	26
3...	43	39	34	33	55	51	57	23	43	22	45	36	67	57	35	22	35	22	33	13	30	13	34	16	36	30	30	13
4...	58	25	59	25	57	23	32	18	36	19	47	16	51	29	25	15	47	21	30	10	20	7	25	11	30	18	23	5
5...	50	40	38	25	55	22	48	28	54	24	48	16	52	30	42	24	47	17	36	16	34	18	34	17	39	18	32	12
6...	23	20	16	15	32	20	28	12	24	13	23	20	36	33	28	13	17	6	16	8	19	6	18	6	35	13	12	0
7...	23	4	26	− 8	21	3	14	4	20	4	21	5	30	12	16	− 4	22	1	18	0	18	0	22	2	15	− 6	25	0
8...	37	3	40	8	37	− 7	29	7	35	11	35	− 6	43	10	30	8	33	14	32	10	31	14	33	15	20	− 2	32	18
9...	35	5	33	− 9	35	− 8	27	13	30	15	31	− 6	38	12	25	12	29	15	23	13	26	12	25	12	32	− 9	24	8
10...	39	3	36	− 2	43	− 7	25	7	29	6	33	− 7	40	11	25	− 5	32	8	24	7	26	4	28	8	21	− 4	27	4
11...	46	11	46	2	48	− 7	40	18	44	18	44	− 8	51	16	40	16	43	23	37	18	34	19	37	23	30	− 1	35	22
12...	51	30	49	30	54	5	44	33	46	38	38	6	56	16	40	33	46	40	37	34	36	31	37	34	38	21	35	33
13...	52	38	49	40	51	30	45	34	47	38	44	24	57	34	42	35	45	35	40	33	36	33	40	33	44	42	37	33
14...	35	32	34	33	34	31	34	26	38	29	35	32	37	35	41	26	35	31	33	26	36	25	34	27	43	32	33	27
15...	35	28	32	30	33	26	28	24	32	29	31	23	42	27	32	26	33	29	30	25	34	24	30	25	32	29	30	24
16...	43	24	44	25	41	22	37	26	37	28	41	23	42	19	34	26	36	30	31	26	31	27	32	28	32	29	32	27
17...	57	34	59	31	57	22	52	33	55	37	51	27	62	35	50	31	56	36	51	31	41	30	47	31	37	29	46	31
18...	57	43	48	38	55	40	50	34	53	36	52	35	53	40	52	34	54	36	52	30	49	29	52	31	56	36	47	28
19...	59	30	59	33	58	22	51	30	55	34	55	28	58	28	57	28	54	33	48	28	43	22	48	26	42	28	46	26
20...	47	38	45	37	48	22	46	35	46	36	51	28	52	28	45	38	45	35	42	32	42	33	45	33	49	29	47	32
21...	28	26	34	32	28	26	35	19	36	23	33	30	30	28	40	22	35	22	32	20	35	23	34	19	43	25	32	19
22...	47	18	40	19	32	17	24	17	32	21	30	19	35	18	25	19	34	19	32	19	28	19	27	19	25	21	29	18
23...	60	24	45	21	38	18	44	23	49	32	48	20	38	15	45	22	50	33	42	28	37	23	41	26	33	21	37	24
24...	40	35	43	25	45	17	37	27	37	28	41	28	43	28	36	24	37	28	32	27	31	25	33	26	47	26	32	24
25...	49	24	57	23	60	16	38	23	41	24	44	22	48	19	37	30	46	29	36	24	36	16	38	20	36	19	38	22
26...	68	35	67	29	62	16	60	38	64	38	61	21	60	32	60	33	60	44	56	35	51	31	53	33	50	28	49	34
27...	55	34	47	33	65	20	47	32	46	34	41	37	57	38	48	28	44	36	37	29	36	31	38	29	60	36	38	28
28...	52	25	37	27	39	22	38	28	43	27	42	31	39	25	38	24	43	30	32	26	33	23	32	23	36	23	32	22
29...	57	22	48	22	48	18	38	22	42	27	41	29	49	22	37	24	42	27	35	24	33	25	35	22	39	23	33	23
30...	52	35	35	25	45	18	40	24	35	27	36	25	56	25	32	26	37	26	31	24	30	24	31	24	36	27	31	22
31...	35	19	34	18	35	18	27	20	30	25	31	23	32	23	29	13	31	25	28	17	26	13	28	12	31	18	26	5
Mns	46.8	26.2	43.5	23.9	45.9	18.5	39.5	24.4	41.6	26.5	41.3	20.4	47.9	25.9	38.2	22.5	41.1	26.6	35.3	22.5	33.7	21.2	35.2	22.4	37.2	21.6	33.7	20.5

Climatological Data for January, 1910.

DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. COX District Editor

GENERAL CLIMATOLOGICAL CONDITIONS.

The "old fashioned winter" referred to in the December REVIEW continued in the Lake region during January. This was not because the temperature was lower than usual. The mean temperature for the month was, in fact, above normal over the greater portion of the district, but there was no thawing weather of consequence in the western portion during the first decade and in the eastern portion until near the end of the second decade, the low temperatures of last month having continued with but little interruption until after January 10. As a consequence the ground remained covered with snow, gradually increasing in depth over the entire district during the first half of the month, the depth increasing still farther in the eastern portion during the second half of the month. Sleighing was continuous almost generally from December 5. The frequent storms caused great delays to transportation and seriously interfered with business over telegraph and telephone wires. This was especially the case when sleet and rain as well as snow occurred. The harvesting of ice continued throughout the month and the companies engaged in the work report an excellent quality of ice and a supply far beyond the requirements of the coming season. In the southern Lake region the deficiency in sunshine for the month was considerable and at several stations not a single clear day was reported. While a few severe local windstorms occurred, the average wind movement for the month was not, as a rule, above the average.

TEMPERATURE.

The mean temperature in the district averaged slightly above the normal. The excess was greatest in the St. Lawrence Valley and near Lake Champlain. There was reported at Canton, N. Y., an excess of 7.7°; at Moira, N. Y., 6.3°; and at Burlington, Vt., 4.2°. There were also several places in the Lake Superior region where the temperature averaged considerably above the normal, the greatest excess being 4.1° at Mount Iron, Minn., and Marquette, Mich. In the middle and southern Lake region the temperatures were more nearly normal.

The month opened with moderate temperature over practically the whole district, the only exceptions being Vermont and the western Lake Superior region. The latter section was then under the influence of a cold wave which advanced from the northwest and gradually overspread the entire district. By the 4th the temperature had fallen to a low point in nearly all sections and the weather continued cold, with but slight occasional moderation until the 10th, in the western and central Lake region, and until the 17th and 18th in the eastern Lake region and St. Lawrence Valley. During this cold period the lowest temperatures in the various sections were as follows: Floodwood, Minn., −27°; Grand River Forks. Wis., −31°; Iron River, Mich., −24°; Hammond and South Bend, Ind., −10°; Bucyrus, Ohio, −6°; Nehasane, N. Y., −32°; Northfield, Vt., −26°. Following the passing of the cold weather moderate temperatures prevailed, as a rule, during the remainder of the month, the temperature at no station falling again to zero, except in the Lake Superior region and the St. Lawrence Valley. No long period of excessively warm weather occurred in any portion of the district, and there were very few instances during the month when the daily minimum temperature did not fall to freezing or below. The highest temperature observed was 61° on the 20th at Lima, Ohio. There were but few readings of maximum thermometers above 50°, and in the Lake Superior region and the northern portion of the Lower Peninsula of Michigan the highest temperatures observed were in the 30's.

The maximum daily temperatures during the last two weeks of the month were sufficiently high, however, to cause in the southern and eastern portions of the district the so-called "January thaw". This thaw resulted in threatened floods in portions of Illinois, Indiana, and Ohio, where the precipitation during previous months had been excessive, but in Vermont and portions of northern New York, where the reservoirs and streams were low since the drought of 1909, the thaw was most welcome, as a considerable supply of water was afforded by the melting snow.

PRECIPITATION.

There was an excess of precipitation over the greater portion of the district, the area in which it was deficient being confined mainly to the Lake Superior region, thence extending southward over the Fox River Valley in Wisconsin and over the entire State of Michigan, except the extreme southern portion. There was an excess of 1 inch or more in the lower Lake region, gradually increasing in amount from southeastern Lower Michigan to Buffalo, N. Y., where the departure amounted to +3.11 inches. The total precipitation at that station from rain and melted snow measured 6.41 inches. The stormy days were, as a rule, well distributed throughout the month, and there were several stations in the lower Lake region and the St. Lawrence Valley where the number exceeded 20. The largest number reported was 27 at Adams Center, N. Y.

The precipitation was mostly in the form of snow, but the three most important storms of the month, which crossed the district on January 12–14, 17–18, and 20–22, respectively, were accompanied by considerable amounts of sleet and rain as well as snow, together with high winds. As a result, serious interruption was caused to traffic and to communication by telegraph and telephone throughout the southern and eastern portions of the Lake region. Snow had remained continuously on the ground over the entire district since early in December, and where the sleet and rain fell, followed by freezing weather, the snow covering was largely turned into solid ice, and its removal was difficult. Freight trains were in many instances "stalled" on the sidings on account of clogging of the switches with ice. The storms interfered with the usual shipments of coal, and as there had been a great drain on the coal supply in the various cities during the severe cold of the first half of the winter, a serious coal famine was threatened, but relief was afforded by the moderate weather of the second half of the month. Because of the icy streets hauling was difficult, teams being unable at times to pull more than half a load, and as a consequence deliveries were much delayed. Moreover, as a result of the severe sleet and snow storm of January 12–13 in northern Illinois, not a single milk train succeeded in reaching Chicago from the country in two days.

MISCELLANEOUS.

The following extracts from reports of Weather Bureau officials furnish special information not incorporated above:

Wisconsin.—A maximum wind velocity of 55 miles an hour from the southeast was recorded at Milwaukee on the 4th, which is the highest velocity ever recorded at that station during January.—*H. B. Hersey, Section Director, Milwaukee.*

Illinois.—Snow, sleet, and rain storm at Chicago January 13–14. The snowfall of last night was considerable, and drifted wherever exposed to the sweep of the wind. The rain which fell yesterday froze hard over the snow, so that at least half the snow covering seems to be solid ice. The depth is greater outside the business portion, and the snow is piled up in great heaps in the various sections of the city. Transportation was very much impeded, streets very slippery, and but few sidewalks fully cleaned. Teaming was difficult and the freight traffic on the various roads paralyzed. No milk

trains arrived in the city today on account of the impossibility of getting the freight trains off the sidings in the country. On account of the snow and ice being packed so hard, it was difficult to remove.—*Chicago Daily Local Record, January 14.*

Indiana.—The rivers were comparatively high for short intervals near the middle of the month in many parts of the State, due to the formation of gorges. One of these formed at Fort Wayne on the 18th, but broke within a short time without causing damage. There were but few clear days, and the cloudiness was excessive.—*V. H. Church, Section Director, Indianapolis.*

Michigan.—Heavy snow, accompanied by high winds, occurred in the southwestern part of the Lower Peninsula on the 13th and 14th; all railroad traffic was greatly impeded from the afternoon of the former date to the night of the latter.—*C. F. Schneider, Section Director, Grand Rapids.*

Ohio.—Although the precipitation was somewhat lighter in the western counties than elsewhere, it was quite evenly distributed. There was precipitation in some portion of the district on every day of the month, but the most pronounced storms occurred on the 5th, 6th, 12th, 13th, 14th, 17th, 18th, 21st, and 22d. Nearly all of the precipitation came in the form of snow. The snowfall was unusually heavy. At some stations it was heavier than for any other January record. Exceptionally heavy snowfalls occurred on the 6th, 13th, and 22d. The ground was well covered during the greater portion of the month. Sleet was reported at a number of stations on the 2d, 3d, 5th, 13th, 14th 21st, 26th, and 28th. Thunderstorms were reported at nearly all the stations in the eastern portion of the district on the 26th.—*M. W. Hayes, Section Director, Columbus.*

The storm of yesterday and last night was the severest on traffic in Toledo in 20 years. Street car schedules were so badly demoralized that hundreds of people were forced to walk, take to carriages, or spend the night in downtown hostelries. Clogging of switches and interlocking plates with snow brought passenger train service almost to a standstill for hours. Freight trains are entirely abandoned on all lines to the north and practically suspended in every other direction. Telegraph wires in all directions are affected by the storm and service is slow. Local telephone service is about the only means of communication not seriously affected by the storm. Interurban electric cars were stalled in bunches on many lines and passengers forced to remain in the cars for hours or take to farm houses.—*Toledo Times, January 14.*

New York.—During the passage of a severe cyclonic area on the morning of January 22, the barometer reading at Buffalo broke all former records, the reduced reading (sea-level) at 7:45 a. m. on that date being 28.87 inches, and the barograph trace sheet showed that it fell .05 inch between 7:45 a. m. and 9 a. m., so that the reduced reading, 28.82 inches, was without question the lowest barometer reading recorded here since 1870, when the station was opened. Despite this fact, the highest velocity of the wind reached was but 56 miles an hour, estimated. This low velocity was probably due to the location of the high barometer areas, one near the Banks of Newfoundland and the other central over the Gulf States, which caused the winds here to move in a southerly direction, land winds, whereas the usual high winds and gales come from the southwest and west directions following the passage of a storm into the St. Lawrence Valley, but this storm moved almost directly north and dissipated.—*D. J. Cuthbertson, District Forecaster, Buffalo.*

Vermont.—Springs and streams had not recovered from the drought of 1908, and by the 20th of the month the water supply of many cities and villages was very low. A thaw set in on the 21st and 22d which filled the springs and streams. Rivers rose to a point of breaking up the ice, but not enough to move or gorge it sufficiently to cause any damage. No flood warnings were issued.—*W. A. Shaw, Local Forecaster, Northfield.*

FROST WORK AT ESCANABA, MICH., JANUARY 25, 1910.

Mr. H. S. Cole, Observer at Escanaba, Mich., has made the following report regarding frost work at that place on January 25, 1910:

The low temperature and fog caused a very heavy formation of frost crystals on wires, twigs, prominences, and even on flat surfaces. In some cases the formation was from one-half an inch to three-fourths inch thick, the heaviest the observer has ever seen. The crystals formed mostly on the north or lower side of objects, and had nearly the appearance of snow. The formation was much heavier in the "down-town" districts than out on the brow of the hill.

THE TOPOGRAPHY AND RIVERS OF LOWER MICHIGAN.

By C. F. SCHNEIDER, Section Director.

The topography of Lower Michigan (see fig. 1) affords a moderately steep slope to nearly all of its principal rivers, most of which have a fall of more than 500 feet from source to mouth. Topographically there are two high areas of land, one covering most of Otsego, Crawford, and Roscommon counties, which includes the headwaters of the Cheboygan, Au Sable, Manistee, and Muskegon rivers, while in the southern part of the peninsula there is another considerable area of elevated land, the highest points being found in Jackson, Washtena, and Hillside counties. The apex of this elevation includes the sources of the Grand, Kalamazoo, St. Joseph, and Raisin rivers. Three other rivers of considerable size, the Huron, Rogue, and Clinton, rise in Oakland County. A comparatively low belt of land, extending from Saginaw Bay to the lower valley of the Grand River, separates these two general elevations and along this topographically low strip it is proposed to cut a canal. Surveys have determined that the highest point of this valley is less than 100 feet above lake level.

The highest point known in the Lower Peninsula is in southeastern Wexford County, 7 miles south and 3 miles east of Cadillac, a hill there being 1,434 feet above mean tide level.

Another peculiar feature is a ridge of sand dunes extending along the Lake Michigan shore from the southern limit of the State to the apex of the Lelanau Peninsula, caused by the prevailing westerly winds. These sand dunes average 150 to 200 feet in height, rising abruptly from the Lake shore, but extending inland less than a mile.

The river systems of the southern peninsula may be properly divided into 11 drainage areas. They are as follows:

	Drainage area square miles.
1. Saginaw River	6,246
2. Grand River	5,572
3. St. Joseph River	4,586
4. Muskegon River	2,663
5. Kalamazoo River	2,064
6. Manistee River	2,018
7. Au Sable River	1,932
8. Cheboygan River	1,594
9. Thunder Bay River	1,267
10. Raisin River	1,129
11. Huron River	1,043

The slope of these streams is gradual so far as known, the notable exception being the Saginaw River and its 3 southerly tributaries. The Saginaw River receives its water from 4 large streams at a point where it is practically an arm of the Saginaw Bay. Three of the tributary rivers have their sources in topographically low regions south of Saginaw Bay and southwestward toward the lower Grand River Valley. The fourth and largest tributary, the Tittibawassee River, rises in the high lands of Gladwin, Clare, and Isabella counties. Most of the Lower Peninsula rivers, however, have their sources at elevations ranging from 1,000 to 1,200 feet above sea-level, or 400 to 600 feet above their mouth, the average lake level being somewhat less than 600 feet above mean tide (581 feet for lakes Michigan and Huron and 573 feet for Lake Erie).

The river valleys are mostly broad and flat and the beds usually of earth, rock outcroppings being the exception. Two notable rock outcroppings are found in the Valley of the Grand, one at Grand Ledge and the other at Grand Rapids. At the latter place the Grand River overflows a limestone ledge which originally caused a beautiful rapids from which the city of Grand Rapids took its name. The rapids originally had a fall of over 17 feet in about a mile over a river bed filled with boulders. Some conception of the appearance of these rapids when first discovered may be obtained by remembering that the rapids at Sault Ste. Marie have a fall of less than 21 feet in a mile and three-quarters.

The run-off of the rivers of the Lower Peninsula has been modified as the country has become settled. Large artificial drainage systems, such as township and county ditches and the dredging of the small tributaries, have not only tended to promote the run-off of the water at all seasons, but have promoted the congestion of the water when the precipitation has been great, especially in early spring. These ditches and dredged creeks connect with a large amount of tile drainage and it is owing to this artificial drainage that the writer attributes much, if not most, of the severity of the floods that have occurred in recent years. Closely related to the artificial drainage is the

drying up of the large areas of swamp lands, which in former years acted as reservoirs to conserve in a great measure the even flow of the streams. Fifty or sixty years ago the Lower Peninsula of Michigan was one vast wooded expanse interspersed with large areas of swamps. To-day the trees have long been felled and, particularly in the southern portion, nearly all the swamps have been drained. Extensive swamp areas still remain at the head of the rivers north of the Saginaw-Grand Valley and, undoubtedly, these swamps contribute in a large measure to the remarkably even flow of such rivers as the Au Sable and the Manistee. It is noteworthy that these two rivers maintain a comparatively even flow throughout the year, and this in spite of the almost total deforestation of their watersheds. Undoubtedly, the sandy soil on the slopes of the watersheds forms a reservoir for water, but decidedly the most important reservoirs are the large swamp areas at and near their sources. It would, therefore, appear that the permeable soil and the swamp areas have a more pronounced effect on the even flow of the Lower Michigan rivers than the deforestation. In rocky regions of scant soil and high declivity the effect of the forest covering is most pronounced.

The topography of Lower Michigan in connection with its river systems presents many water power possibilities. The Grand and Muskegon rivers have already been partially developed. There are large dams on the Muskegon River at Rogers and Croton which generate approximately 21,000 horsepower. The Rogers Dam is near Big Rapids, and the Croton Dam about 8 miles from Newago. These two dams are controlled by one company and in connection with two dams on the Flat River, a tributary of the Grand, furnish sufficient power to run 100 miles of interurban and city railway with several cars, light half a dozen cities and towns with an aggregate population of 150,000 people, and operate many factories in Grand Rapids, Muskegon, Grand Haven, and Holland. The Commonwealth Power Dam is located near Lyons on the Grand River at the foot of the sharpest slope of the river, which is approximately 21 miles long, with a fall of nearly 86 feet. The dam itself has a head of 26 feet and generates electrically 5,000 horsepower. Much of this power is used in propelling the street car service in Lansing, Jackson, Battle Creek, and Kalamazoo, 208 miles of transmission wire being necessary to distribute the power.

Extensive waterpower projects on the Au Sable are now under way which contemplate at least 5 dams on that river. Approximately 30,000 horsepower will be developed and distributed southward over transmission wires more than 200 miles in length.

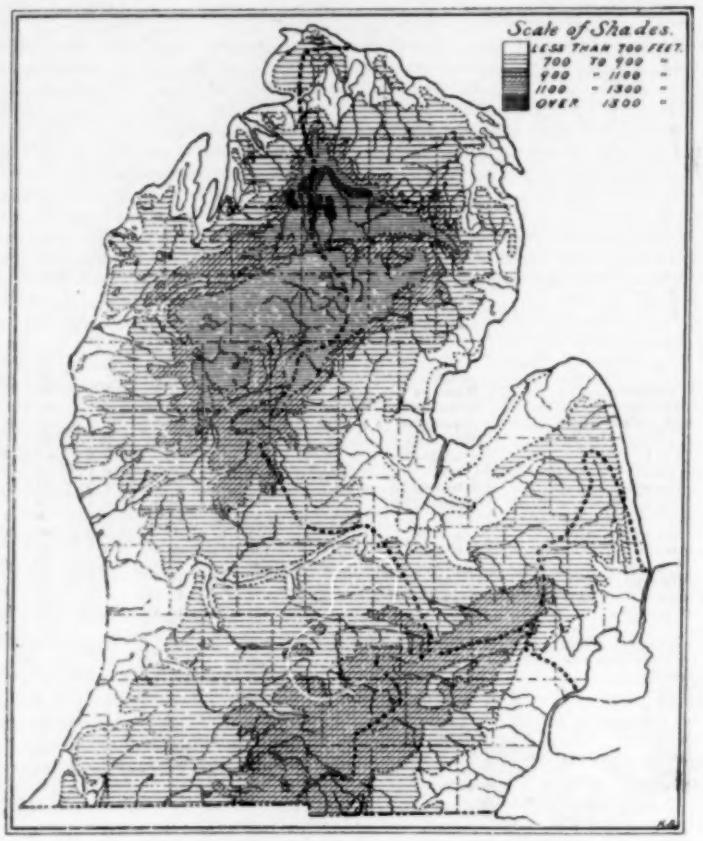


FIG. 1—Topography, rivers, and divides of the Lower Michigan Peninsula.

TABLE 1.—*Climatological data for January, 1910. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																			
Cloquet	Carlton	892																	C. I. McNair.
Duluth	St. Louis	1,133	39	13.4	+ 3.0	33	19	−17	3	30	0.80	− 0.18	0.62	7.8	6	6	12	13	sw.	U. S. Weather Bureau.
Floodwood	do	1,257	6	11.8[b]		41[a]	19	−27[b]	4	41[b]	0.20[a]		0.09[a]	3.2[a]	3[a]	14[a]	14[a]	2[a]	s.	M. H. Schussler.
Mount Iron	do	1,510	16	10.2	+ 4.1	36	19	−26	4	37	0.45	− 0.56	0.25	4.5	2	3	17	11	nw.	Oliver Iron Mining Co.
Stephens Mine	do	1,500	3	9.4		38	19	−26	4	41	0.33		0.17	2.7	6	10	7	14	sw.	Do.
Two Harbors	Lake	614	16	16.2	+ 3.3	36	20	−16	3	34	0.40	− 0.33	0.20	9.0	4	14	11	6	nw.	George W. Watts.
Wisconsin.																				
Appleton	Outagamie	795	11	17.2	+ 2.4	38	1	−20	7	32	1.23	− 0.15	0.60	13.1	8	7	9	15	sw.	Wm. O. Thiede.
Ashland	Ashland	647	16	16.2	+ 2.0	38	19	− 9	8	35	0.96	− 0.17	0.60	11.0	6	12	4	15	sw.	Sam Wheeler.
Cecil	Shawano	804	3	15.4		38	19	−22	7	45	1.05		0.35	15.0	9	6	17	8	sw.	Louis W. Schmidt.
Chilton	Calumet	860	16	16.2	− 0.6	40	20	−18	7	27	2.29	+ 0.64	0.80	19.7	15	2	22	7	ne.	Daniel V. Jones.
Crandon	Forest	1,060	15	13.9	+ 3.3	36	1†	−22	7	35	0.61	− 0.95	0.20	6.1	7	21	6	4	w.	Calvin T. H. Riggs.
Florence	Florence	1,293	19	14.2[a]	+ 1.2	39[a]	19	−15[a]	7	39[a]	0.87	− 0.29	0.52	9.0	2	14	3	14	nw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	24	15.2	− 1.4	38	20	−26	7	40	1.57	+ 0.25	0.70	19.0	11	8	9	14	sw.	Geo. W. Marshall.
Grand River Locks	Marquette	616	14	14.2		40	1†	−31	7	47	1.22	+ 0.02	0.54	16.0	6	13	7	11	nw.	Jerry Parkinson.
Green Bay	Brown	617	24	16.1	+ 1.5	40	20	−18	7	32	1.02	− 0.67	0.37	11.7	12	4	11	16	sw.	U. S. Weather Bureau.
Herbster	Bayfield	700	2																	Wm. Angell.
Iron River	do	1,096	1	14.0		35	19	−18	6	26	0.65		0.45	7.0	3	12	6	13	s.	Harry C. Hall.
Kewaunee	Kewaunee	590	1	19.0		38	20	−14	7	30	1.54		0.55	15.4	6	18	8	5	w.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	59	19.6	+ 2.1	40	20	−13	7	28	1.41	− 0.26	0.60	10.8	9	6	10	15	w.	Johanna Lups.
Menasha	Winnebago	764	13								1.92	+ 0.98	1.02	18.8	8	10	7	14	sw.	George T. Allanson.
Menominee Falls	Waukesha	842	1	19.7		40	20†	−16	7	33	2.26		0.80	19.6	9	9	12	10	w.	Arthur H. Christman.
Milwaukee	Milwaukee	681	40	21.1	+ 0.5	40	20	−10	7	29	2.71	+ 0.61	1.26	24.4	11	9	8	14	w.	U. S. Weather Bureau.
New London	Outagamie	762	14	16.2	+ 0.1	39	20	−20	7	35	1.16	− 0.08	0.30	27.0	6	5	7	19	sw.	August H. Pape.
Oconto	Oconto	590	19	17.5	+ 0.1	41	20	−21	7	34	0.65	− 1.02	0.25	6.5	4	8	13	10	w.	William K. Smith.
Oshkosh	Winnebago	744	21	16.6	− 1.5	39	20	−21	7	31	1.25	− 0.24	1.00	13.0	4	15	12	4	sw.	Evan Vincent.
Pine River	Waushara	902	15	16.4	+ 0.1	39	20	−20	7	33	1.17	+ 0.15	0.30	12.6	11	6	11	14	nw.	George H. Carpenter.
Plum Island	Door	588	2	20.4		40	20	− 2	7	30	0.60		0.20		6	11	9	11	nw.	John P. Whelan.
Port Washington	Ozaukee	713	17	19.7	− 0.2	40	20	−12	7	26	2.75	+ 0.91	1.20	28.0	7	11	5	15	nw.	Richard C. Kann.
Racine	Racine	633	13	21.6	− 1.8	41	26	−17	7	29	1.61	− 0.11	0.50		8	14	1	16	nw.	Daniel Davis.
Sheboygan	Sheboygan	831	12	20.8	+ 0.1	40	20	−10	7	26	2.40	+ 0.50	1.05	34.0	9	6	11	14	nw.	Louis C. Meyer.
Sturgeon Bay	Door	600	12	18.0	− 3.0	39	20	−14	7	34	1.50		0.91	14.5	6	11	10	10	nw.	Adam N. Dier.
Superior	Douglas	671	1	14.3[a]		34[a]	16†	−14[a]	3†	34[a]	0.31[b]		0.30[b]	3.1[b]	2	11	7	13	sw.	Edward B. Banks.
Waupaca	Waupaca	857	14	14.4	− 1.3	38	20	−25	7	43	0.94	− 0.11	0.37	16.0	5	11	8	12	w.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	40	25.6	+ 1.9	46	26	− 5	7	27	3.07	+ 1.07	0.70	14.8	13	5	6	20	w.	U. S. Weather Bureau.
Indiana.																				
Auburn	DeKalb	874	14	23.7	− 1.6	49	26	− 4	10†	42	2.53	+ 0.25	0.70		9	8	1	22	w.	Mrs. Josie B. Kuhlman.
Berne	Adams	849									3.18		1.16	4.3	13	5	3	23	nw.	H. M. Reusser.
Elkhart	Elkhart	801	8	26.1		48	25	− 5	7	28	1.57		0.45	13.0	11	4	8	19	w.	Dr. Miles Medical Co.
Fort Wayne	Allen	775	14	27.2	+ 0.3	53	26	0	7	26	2.43	+ 0.06	0.97	7.1	10	6	4	21	nw.	Orion E. Mohler.
Hammond	Lake	598	19	26.2	+ 2.5	44	27	−10	7	33	2.03	− 0.21	0.71	8.0	7	10	6	15		Carson W. Whitney.
Howe	Lagrange	886	5	23.2		46	25	− 2	7†	33	2.30		0.80	15.0	6	4	1	26	w.	James E. Zook.
South Bend	St. Joseph	726	17	23.5	− 1.7	48	26	−10	7†	39	2.91	+ 0.18	0.65	19.0	11	5	5	21	s.	Henry H. Swaim.
Whiting	Lake	606		27.0		46	26	− 7	7	29	2.09		0.63	9.3	6	12	9	10	s.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	8	19.5[b]		40[b]	19	− 9[b]	31	34[b]	1.30		0.80	13.0	3	0	0	22	sw.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300		14.0		40	19	−17	8	48	1.12		0.25	18.6	7	10	4	17	nw.	Frank McMonigal.
Blaney	Schoolcraft		3													8	17	6	nw.	Dr. S. S Hackwell.
Calumet	Houghton	1,246	22	17.4	+ 2.0	32	1	− 8	3	23	4.08	+ 1.50	0.88	51.0	19	2	5	24	w.	E. S. Grierson.
Chatham	Alger	875	9	15.5		40	20	−22	7	41	2.59		0.58	25.9	18	8	6	17	nw.	U. P. Experiment Station.
Deer Park	Luce	610	9	19.6		40	20	− 9	15	38	2.25		0.90	22.5	4	5	5	21	s.	Mrs. Sara E. McGaw.
Detour	Chippewa	585	9																	Dr. F. E. Cameron.
Eagle Harbor	Keweenaw	622	11	20.6	+ 0.7	35	17†	− 3	3	23	1.06	− 1.09	0.17	10.6	13	1	8	22	nw.	John Nolen.
Escanaba	Delta	612	37	17.4	+ 2.9	37	1	− 9	7	28	1.52	− 0.03	0.68	15.2	13	7	8	16	nw.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	9	12.6		43	19	−21	8	45	2.10		0.80	21.0	8	7	5	19	w.	W. B. Hatfield.
Grand Marais	Alger	610	9	19.0		41	14	− 2	8	32	3.25		0.60	35.5	12	4	7	20	s.	Mrs. Lena Truedell.
Houghton	Houghton	668	9	17.4	+ 2.9	36	15	− 7	9	41	1.82	− 0.22	0.42	28.1	18	1	8	22	nw.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	13																	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	9	15.0[b]		41	1	−13[c]	4	37[c]	0.50		0.35	9.5	3	10	11	10	nw.	Chapin Mining Co.
Iron River	Iron	1,504	13	12.8	+ 2.0	42	19	−24	7	51	1.60	+ 0.41	0.40	13.0	5	17	12	2	nw.	Victor D. Laing.
Ironwood	Gogebic	1,520	7	14.6		39	19	−14	9	34	1.60		0.40	16.0	7	13	8	10	sw.	Prof. J. V. Brennan.
Ishpeming	Marquette	1,536	10	15.5[c]	+ 2.7	35[c]	1	− 7[c]	25†	35	1.42	− 0.50	0.60	14.2	9	4	14	13	w.	Cliv'd. Cliffs Iron Co.
Isle Royale	Keweenaw	610	3																	John H. Malone.
Mackinac Island	Mackinac	831	10	15.4	− 3.3	31	23	− 8	4	21						11	10	10	w.	M. I. S. P. Com.
Maple Ridge	Delta		4	15.6		38	20	−15	7	37	1.10		0.40	11.0	4	15	5	11	n.	Herman Johnson.
Marquette	Marquette	734	39	20.0	+ 4.1	42	1	− 3	3	27	2.03	− 0.01	0.64	24.3	13	3	10	18	w.	U. S. Weather Bureau.
Menominee	Menominee	581	11	16.3	− 1.8	39	2	−18	7	30	0.88	− 0.23	0.50	8.8	4	13	10	8	sw.	C. & N. W. Ry.
Newberry	Luce	773	8	16.7[c]		35[c]	25	−17	7	37[c]	0.50		0.20	5.0	4	11	14	6		D., S. S. & A. Ry.
Powers	Menominee	868	11																	C. & N. W. Ry.
St. Ignace	Mackinac	593	20	20.0	+ 2.0	40	20†	− 1	4	24	2.49	+ 0.30	0.76	17.8	8	0	7	24	w.	D., S. S . & A. Ry.
Sault Ste. Marie	Chippewa	614	22	15.8	+ 2.5	35	20	−15	10	34	1.15	− 1.02	0.45	10.1	15	1	9	21	e.	U. S. Weather Bureau.
Thomaston	Gogebic	1,347	13	13.6	+ 1.4	37	18	−18	8	44	0.90	− 1.00		9.0	6	9	3	19	nw.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263		13.3		38	19	−14	9	39	0.89		0.21	13.5	9	7	11	13	sw.	R. S. Schultz, jr.
Watersmeet	Gogebic		1	12.6		35	19	−20	8†	38	0.80		0.18	8.0	12	6	6	19	s.	B. N. Grant.
Wetmore	Alger	878	13	17.2	+ 2.3	40	20	−21	7	58	3.20	+ 1.08		32.0	8	12	0	19	s.	D., S. S. & A. Ry.
Whitefish Point	Chippewa	610	20	20.4	+ 2.4	36	1	− 1	4	31	1.02	− 1.06	0.35	11.0	13	9	1	21	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	32	24.6	+ 2.0	44	26	0	4	32	3.21	+ 1.13	1.20	10.5	10	1	10	20	w.	B. F. Gibbs.
Agricultural College	Ingham	820	46	23.4	+ 1.4	42	20†	3	10	24	2.52	+ 0.70	0.70	23.4	14	9	18	4	w.	Prof. A. J. Patten.
Allegan	Allegan	698	19	24.6	+ 1.2	44	20	− 3	31	28	3.15	+ 1.15	0.40	27.0	15	2	6	23	w.	Pere Marquette R. .R.
Alma	Gratiot	750	23	21.7	+ 0.4	40	20	− 7	4†	31	1.85	+ 0.66	0.67	15.0	8	1	10	20	sw.	P. M. Smith.
Alpena	Alpena	609	37	21.6	+ 2.9	39	1	− 5	10	26	1.56	− 0.64	0.55	18.0	11	3	9	19	sw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	30	23.4	+ 1.1	42	26	− 2	4	27	2.48	+ 0.47	0.90	14.3	12	3	10	18	w.	University of Michigan.
Arbela	Tuscola	728	14	21.6	− 1.2	40	20	− 9	4	27	1.48	− 0.69	0.44	7.5	7	0	5	26	nw.	Wm. Atkin.
Battle Creek	Calhoun	822	26	23.2	− 0.3	45	26	− 1	4†	24	3.12	+ 0.74	0.77	17.5	11	6	3	22	sw.	Elmer E. Sager.
Bay City	Bay	593	14	22.5	− 0.1	47	18	− 7	4	29	1.35	− 0.69	0.30	7.5	7	0	2	29	s.	Pere Marquette R. R.
Benzonia	Benzie	832	14	22.2	+ 0.7	40	20	− 1	15	28	2.59	− 0.70	0.78	20.2	11	1	13	17	nw.	Martin S. Joiner.
Berlin	St. Clair		21	21.6	− 0.7	39	18†	− 4	4	28	2.51	+ 0.41	0.52		11	1	4	26	nw.	h. O. Gould.
Big Rapids	Mecosta	906	14	20.4	+ 0.4	41	20	− 8	9	32	1.30	− 1.73	0.60	13.0	4	5	6	20	nw.	Charles Gay.
Bloomingdale	Van Buren		6	23.0		40	20	− 5	4	25	1.38		0.60	6.5	6	8	3	20	nw.	John M. Haven.
Cadillac	Wexford	1,293	1	19.3[a]		40[a]	20	− 4[a]	4	26[a]	1.78[c]		0.55[a]	18.5[a]	8[a]	8[a]	9[a]	13[a]	nw.	A. J. Teed.
Cassopolis	Cass	903	9	23.2		45	26	− 9	7	30	1.72		0.60	16.0	7	5	1	25	sw.	Michigan Central R. R.
Charlevoix	Charlevoix	610	23	21.0	+ 0.3	41	20	−11	31	31	2.20	− 0.40	0.60	22.0	6	9	6	16	sw.	Pere Marquette R. R.
Charlotte	Eaton		6	22.2		47	26	− 9	4	36	1.33		0.45	9.0	7	2	5	24	sw.	City of Charlotte.

TABLE 1.—*Climatological data for January, 1910. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Lower Peninsula—Cont'd.																				
Cheboygan	Cheboygan	611	20	18.5	+ 0.4	40	16†	− 9	9	39	1.42	− 0.29	0.80	19.0	4	7	11	13	s.	E. A. Bouchard.
Clinton	Lenawee	830	20	25.1[b]	+ 1.4	46[b]	29	− 3[b]	4	30[b]	2.24	+ 0.35	0.63	9.5	...	6[c]	5[c]	17[c]	sw.	David Woodward.
Coldwater	Branch	984	13	25.1	− 0.1	50	26	− 6	10	34	2.02	− 0.23	0.50	11.5	8	5	5	21	nw.	Lake Shore & Mich. So. Ry.
Concord	Jackson		5	23.8	.....	45	27	− 5	4	34	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Dr. W. N. Armstrong.
Croton	Newago	685	2	23.2	.....	42	20	− 3	4	28	1.02	.....	0.30	7.0	6	0	19	12	w.	G. R.-Mus. Power Co.
Detroit	Wayne	730	39	25.0	+ 0.7	43	26	2	4	22	3.14	+ 1.16	1.03	22.2	15	1	8	22	nw.	U. S. Weather Bureau.
Durand	Shiawassee	799	3	23.8[b]	.....	40[b]	20†	− 3[b]	4	25[b]	1.16[b]	.....	0.56[b]	3.0[b]	9[b]	3[b]	11[b]	15[b]	sw.[b]	Grand Trun, Ry.
East Tawas	Iosco	590	13	22.1	+ 0.7	40	20	− 6	4	30	1.75	+ 0.05	1.20	17.5	5	21	7	3	w.	Detroit & Mackinac Ry.
Eloise	Wayne	640	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Gilmore.
Flint	Genesee	730	21	22.8	+ 0.9	42	20†	− 2	4	30	1.43	− 0.31	0.50	4.5	9	2	8	21	w.	Wm. L. Fisher.
Frankfort	Benzie	589	6	23.6	.....	42	20	5	4	20	2.65	.....	0.50	26.5	12	11	0	20	n.	Capt. Geo. Morency.
Ganges	Allegan	665	1	23.8	.....	42	26	2	4†	27	1.68	.....	0.52	11.2	10	3	8	20	se.	H. H. Hutchins.
Gaylord	Otsego	1,367	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Gladwin	Gladwin	794	14	19.8[b]	− 0.4	48[b]	1	−14[b]	4	48[b]	0.90[b]	− 1.08	0.60[b]	9.0[b]	3[b]	17[b]	5[b]	7[b]	w.[b]	Geo. R. Smith.
Grand Haven	Ottawa	628	29	24.2	− 0.3	40	26	1	4	25	2.41	− 0.39	0.50	26.6	21	1	8	22	se.	U. S. Weather Bureau.
Grand Rapids	Kent	707	21	24.4	+ 0.6	45	20	2	4	21	2.04	− 0.74	0.68	10.3	14	2	3	26	s.	U. S. Weather Bureau.
Grape	Monroe	625	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Joseph W. Morris.
Grass Lake	Jackson	989	4	23.1	.....	42	26	2	10	23	1.40	.....	0.60	11.0	6	6	7	18	sw.	Menzo Conklin.
Grayling	Crawford	1,147	21	18.6	+ 1.5	40	20	−20	4	34	3.45	+ 1.31	1.20	34.5	15	6	20	5	sw.	Dr. Oscar Palmer.
Harbor Beach	Huron	635	22	23.4	+ 1.2	40	20	0	4	35	2.60	+ 0.97	0.50	24.0	11	14	2	15	nw.	Pere Marquette R. .R
Harrison	Clare	1,150	17	20.6	+ 2.0	45	22	−15	4	37	1.40	− 0.42	0.80	14.0	4	2	7	22	sw.	Do.
Harrisville	Alcona	616	26	20.8	+ 1.2	39	2	− 5	3†	28	1.95	− 0.96	0.40	19.5	14	1	8	22	sw.	Dr. D. W. Mitchell.
Hart	Oceana	698	18	21.3	− 1.0	38	20	− 8	10	32	1.60	− 1.57	0.60	16.0	8	1	9	21	sw.	Pere Marquette R. R.
Hayes	Huron	620	20	21.6	− 0.5	38	18	− 8	10	31	.....	.....	.....	.....	.....	1	9	21	nw.	C. F. Leipprandt.
Highland	Oakland	830	18	.....	.....	.....	.....	.....	.....	.....	2.91	+ 0.73	0.50	17.8	10	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	13	23.6	− 0.5	44	26	− 4	4	26	1.83	− 0.69	0.51	10.2	14	4	6	21	nw.	Prof. C. L. Herron.
Holland	Ottawa	610	4	22.6	.....	43	26	− 9	31	32	2.48	.....	0.33	19.5	16	0	8	23	nw.	City of Holland.
Howell	Livingston	924	18	22.6[b]	+ 0.5	42[b]	18†	− 6[b]	4	27[b]	1.81[b]	− 0.05	0.75[b]	11.0[b]	8[b]	7[b]	6[a]	16[b]	sw.[b]	Frank Sharp.
Ivan	Kalkaska		21	17.3	− 1.5	41	20	−16	4	32	1.06	− 1.29	0.26	21.0	8	4	9	18	nw.	O. L. Giddings.
Jackson	Jackson	927	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Jeddo	St. Clair	667	21	22.3	+ 0.2	39	20	− 3	4	31	2.57	+ 0.70	0.60	19.7	14	3	11	17	sw.	William Bice.
Kalamazoo	Kalamazoo	955	34	22.6	− 1.0	44	26	− 1	10	28	1.77	− 0.61	0.60	17.7	10	6	5	20	sw.	Kalamazoo Asylum.
Lansing	Ingham	881	23	23.1	+ 0.3	41	30†	− 3	4	22	2.52	+ 0.32	0.50	16.2	12	2	1	28	nw.	State Board of Health.
Lapeer	Lapeer	827	11	23.6	+ 0.9	47	20	− 5	4	34	1.23	− 0.47	0.30	9.5	7	0	8	23	sw.	Michigan Home.
Ludington	Mason	586	12	24.6°	+ 0.3	42°	20	− 2°	4	37°	0.85°	− 1.49	0.21°	11.0°	6°	2°	11°	13°	sw.°	Pere Marquette R. R.
Luther	Lake	1,028	...	20.6	.....	43	20	−11	4	36	1.55	.....	0.54	12.1	11	4	12	15	w.	John W. Nichoson.
Mackinaw	Cheboygan	592	14	23.4	+ 4.5	47	20	1	3†	33	1.95	+ 0.41	0.70	19.5	9	8	0	23	s.	Grand Rapids & Ind. Ry.
Mancelona	Antrim	1,121	14	18.2	− 0.8	41	20	−16	4	38	1.70	− 1.11	0.40	17.0	7	4	6	21	w.	Do.
Manistee	Manistee	600	13	23.6	− 0.1	41	20†	− 3	15	31	1.70	− 1.10	0.40	17.0	6	2	11	18	nw.	Pere Marquette R. R.
Midland	Midland	604	11	21.8	− 1.4	39	20†	−16	4	40	.....	.....	.....	.....	.....	2	11	18	sw.	Do.
Montague	Muskegon	660	7	22.7	.....	38	20	− 3	4†	29	.....	.....	.....	.....	.....	6	18	7	nw.	Gerard A. Whitbeck.
Morenci	Lenawee	811	3	25.4	.....	47	26	− 2	4	24	2.36	.....	0.76	13.8	9	5	3	23	nw.	George J. Tripp.
Mount Clemens	Macomb	615	10	24.9	+ 0.6	47	27	− 1	31	43	2.08	+ 0.49	0.40	14.1	13	3	8	20	sw.	Herman Orbits.
Mount Pleasant	Isabella	826	11	21.4	+ 0.2	42	29	− 6	4	41	.....	.....	.....	.....	.....	12	5	14	sw.	Pere Marquette R. R.
Muskegon	Muskegon	587	14	.....	.....	.....	.....	.....	.....	.....	3.00	+ 0.45	0.80	5.0	8	4	0	27	n.	Grand Rapids & Ind. Ry.
Old Mission	Grand Traverse	848	16	22.8	+ 0.6	43	20	− 1	4	21	1.60	− 0.68	0.30	15.5	10	3	8	20	sw.	E. O. Ladd.
Olivet	Eaton	934	20	22.5	− 0.5	44	26	− 4	4	37	2.35	+ 0.25	0.55	14.4	12	8	1	22	nw.	Prof. G. A. Knapp.
Omer	Arenac	616	11	.....	.....	45	26	.....	.....	.....	0.90	− 0.60	0.40	9.0	4	0	15	16	w.	Detroit & Mackinac Ry.
Onaway	Presque Isle	826	7	17.2	.....	50	20	−12	10	35	1.80	.....	0.60	18.0	5	5	0	26	sw.	Do.
Ovid	Clinton	760	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. B. Faxon.
Owosso	Shiawassee	731	13	22.9	+ 1.3	41	20†	− 7	22	35	1.96	+ 0.03	0.64	13.8	12	1	19	11	sw.	Owosso Sugar Co.
Petoskey	Emmet	660	20	21.2	+ 2.0	38	1	− 5	4	28	2.40	− 0.08	0.40	24.0	14	1	5	25	w.	Grand Rapids & Ind. Ry.
Plymouth	Wayne	725	13	26.2	+ 2.4	45	1†	2	4†	28	1.24	− 0.62	0.64	11.0	5	1	10	20	w.	Pere Marquette R. R.
Pontiac	Oakland	935	10	23.4[b]	− 2.3	40[c]	18†	− 2	4	24[c]	2.69	+ 0.80	0.81	21.5	11	11	5	15	nw.	Fred W. Shaw.
Port Austin	Huron	618	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pere Marquette R. R.
Port Huron	St. Clair	639	35	23.6	+ 1.8	41	20	0	4	25	1.99	+ 0.10	0.58	14.8	16	3	5	23	nw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	14	20.4	+ 1.3	40	20	−15	9	35	1.65	+ 1.45	0.40	12.5	6	7	11	13	w.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	6	17.0[b]	.....	40[b]	20	−21[b]	4	32[b]	2.05[b]	.....	0.75[b]	19.0[b]	7[b]	1[b]	12[b]	16[b]	sw.[b]	William Marsh.
Saginaw	Saginaw	601	8	24.2	.....	40	2†	− 2	4	26	2.20	.....	0.30	10.7	15	2	15	14	sw.	Postmaster.
Saginaw, W. S.	do	601	15	23.2	− 3.4	42	20	− 4	4	26	1.31	− 1.39	0.42	6.5	12	2	14	15	nw.	Robert B. Hudson.
St. James	Charlevoix	681	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. N. Wilhelm.
St. Johns	Clinton	779	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of St. Johns.
St. Joseph	Berrien	593	23	25.6	− 1.0	47	26	1	10	24	1.84	− 0.65	0.90	15.0	7	1	11	19	sw.	City of St. Joseph.
Sandusky	Sanilac	790	1	22.4[d]	.....	40[d]	20	− 4[d]	4	30[d]	1.01[d]	.....	0.40[d]	8.0[d]	4[d]	.....	.....	.....	nw.[d]	Pere Marquette R. R.
Saranac	Ionia	639	15	22.6	− 0.1	41	20	−11	31	37	1.79	− 0.72	0.62	11.5	8	4	1	26	sw.	John Wallington.
South Haven	Van Buren	585	14	.....	.....	44	31	.....	.....	.....	.....	.....	.....	.....	.....	6	6	19	se.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	17	20.6°	− 1.8	38°	20	− 8°	4	18°	1.41°	− 0.87	0.60°	14.1°	4°	2°	7°	19°	sw.°	City of Stanton.
Thornville	Lapeer	975	33	25.6	+ 2.7	48	20	− 8	4	33	2.94	+ 0.67	0.50	27.0	12	4	3	27	w.	Dr. J. S. Caulkins.
Traverse City	Grand Traverse	588	13	21.3	− 1.1	40	1	− 5	15	30	1.70	− 1.00	0.40	17.0	7	7	2	22	w.	Grand Rapids & Ind. Ry.
Vassar	Tuscola	641	9	25.2[i]	.....	42[i]	21	8[i]	25	27[i]	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	13	23.4	− 0.2	46	26	− 2	7†	28	3.94	+ 1.33	1.35	22.0	11	10	1	20	sw.	Chas. A. Palmer.
Webberville	Ingham	884	8	23.8	.....	43	26	− 4	4	26	1.73	.....	0.60	16.0	10	2	9	20	sw.	I. R. Wadsworth.
West Branch	Ogemaw	973	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Woodlawn	Montmorency		8	16.8	.....	42	20	−16	4†	37	2.55	.....	0.80	25.5	8	1	8	22	sw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	25	23.8	− 1.0	43	26	− 2	4	27	2.68	+ 0.68	0.51	16.3	12	1	24	6	nw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	23	26.2	− 1.1	45	26	2	8	27	2.97	+ 0.37	0.53	21.0	15	3	2	26	sw.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	17	28.0	+ 0.7	49	26	0	10	26	3.49	+ 0.68	0.80	21.5	12	2	5	24	sw.	J. W. Powell.
Bowling Green	Wood	670	30	26.6	+ 0.5	48	26	1	10	22	3.55	+ 0.92	0.65	27.0	11	5	7	19	s.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	15	25.1	− 2.0	44	18†	− 6	10†	36	3.35	+ 0.80	1.00	12.0	...	5	1	25	sw.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	39	26.6	+ 0.4	46	26	4	8	21	4.29	+ 1.84	0.99	28.0	23	1	5	25	s.	U. S. Weather Bureau.
Cleveland (2)‖	do	754	13	26.9	+ 0.2	46	20	3	8	24	5.62	+ 3.42	1.50	37.4	17	5	2	24	w.	Rev. F. L. Odenbach, S. J.
Defiance	Defiance	712	16	26.4	+ 0.2	50	26	− 1	10	26	1.78	− 0.26	0.41	8.9	11	4	1	26	sw.	John F. Heilshorn.
Findlay	Hancock	776	21	25.8	− 1.1	50	26	− 2	10	35	3.96	+ 1.43	1.55	.....	7	7	15	9	sw.	Dr. E. A. Moser.
Fremont‖	Sandusky	628	9	26.9	.....	44	20	4	4†	23	3.64	.....	.....	23.2	7	6	5	20	sw.	E. Stanley Thomas.
Hedges	Paulding	725	16	27.3	+ 0.8	50	26	2	4	22	3.78	+ 1.30	1.43	14.0	12	9	4	18	w.	Charles Stutzman.
Hillhouse	Lake	997	18	25.4	0.0	44	18†	0	10	28	4.28	+ 1.52	1.50	34.0	9	3	11	17	w.	J. W. Doncaster.
Hiram	Portage	1,260	26	25.6	+ 0.6	43	18†	1	8	23	3.73	+ 0.86	0.78	25.5	15	5	3	23	nw.	Prof. G. H. Colton.
Hudson	Summit	1,153	49	25.8	− 0.2	44	20	− 4	8	29	4.28	+ 1.71	0.50	27.0	16	5	5	21	nw.	Dr. W. I. Chamberlain.
Lima	Allen	875	11	27.5	+ 0.2	61	20	− 1	10	27	5.57	+ 2.70	1.10	12.0	12	16	4	11	w.	Miss Ollie De Long.
Medina	Medina	944	22	25.6	− 0.7	44	18†	− 5	10	33	4.14	+ 1.50	10.6	22.0	13	6	1	24	w.	F. W. Clark.
Montpelier	Williams	880	18	25.6	+ 2.3	50	26	− 3	10	29	2.70	+ 0.55	0.70	19.0	8	5	3	23	w.	G. L. Laser.
Napoleon	Henry	680	24	27.5	+ 1.1	50	26	3	4	25	3.43	+ 1.32	0.70	22.0	11	8	5	18	nw.	A. C. Senter.
New Bremen	Auglaize	1,038	17	27.4	− 0.3	51	26	− 5	7	27	3.59	+ 1.22	1.14	8.2	9	6	9	16	w.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	18	25.0	− 1.0	43	26	1	10	22	4.49	+ 1.63	0.80	30.0	14	4	9	18	nw.	W. S. Edgerton.
Norwalk	Huron	719	24	27.4	+ 0.5	48	20	− 5	10	31	4.12	+ 1.57	1.10	33.0	16	9	3	19	s.	Dr. Albert Sheldon.

TABLE 1.—*Climatological data for January, 1910. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																				
Oberlin	Lorain	855	35	26.7	+ 0.9	48	26	− 2	8	30	3.84	+ 1.62	0.82	25.0	13	2	0	29	s.	Prof. F. F. Jewett.
Ottawa	Putnam	720	18	26.4	− 0.8	46	18	− 2	10	28	2.73	+ 0.15	1.00	10.0	10	2	11	18	w.	Prof. J. T. Maidlow.
Rome	Ashtabula	894	3																	G. H. Crosby.
Sandusky	Erie	629	33	26.4	+ 0.1	47	20	6	4	23	3.84	+ 1.74	1.27	28.5	16	3	7	21	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	28	27.4	+ 0.1	47	26	3	10	21	4.01	+ 1.40	0.90	25.2	17	3	12	16	s.	Prof. T. H. Sonnedecker.
Toledo (1)	Lucas	769	39	26.7	+ 1.1	48	26	3	4	20	3.76	+ 1.84	1.10	21.0	16	6	5	20	sw.	U. S. Weather Bureau.
Toledo (2)§	...do	606	6	27.0		50	2	2	4	23	3.78		1.00	15.5	14	6	3	22	sw.	J. A. Krance, S. J.
Upper Sandusky	Wyandot	854	27	27.2	+ 0.4	48	26	− 1	10	25	4.43	+ 1.83	0.95	19.5	15	6	7	18	w.	Prof. R. J. Kiefer.
Vickery	Sandusky	588	17	26.5	− 0.4	47	26	0	10†	39	3.88	+ 1.61	0.84	22.7	18	5	6	20	s.	John W. Barr.
Wauseon	Fulton	780	38	24.9	+ 1.3	48	26	0	4	25	3.16	+ 0.78	0.97	22.1	16	3	6	22	s.	Thomas Mikesell.
Wellington	Lorain	856	16	27.2	− 0.4	47	26	− 1	8	28	3.40	+ 0.92	0.54	22.0	15	5	3	23	nw.	W. D. Warren.
Willoughby	Lake	649	16								4.93	+ 2.48	1.40	23.5	9	2	2	27	sw.	C. J. Richardson.
Pennsylvania.																				
Erie	Erie	713	37	27.0	+ 0.5	48	20	7	8	25	4.00	+ 0.97	1.33	32.0	18	1	4	26	s.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	19	24.0	+ 2.4	50	22	−22	5	52	7.78	+ 3.68	0.75	65.5	27	4	14	13	se.	A. E. Cooley
Angelica	Allegany	1,340	27	22.6	+ 0.3	44	18†	−18	16	47	4.14	+ 1.46	1.03	25.0	17	1	7	23	sw.	Chales P. Arnold.
Appleton	Niagara	270	19	27.1	+ 1.6	45	18†	2	4	37	2.59	+ 0.24	0.75	5.0	9	0	8	23	sw.	H. A. Van Wagoner.
Auburn	Cayuga	715	41	23.0	− 0.9	44	21	−10	4†	45	3.67	+ 1.16	1.00	30.0	13	16	11	4	s.	A. H. Underwood.
Avon	Livingston	585	15	24.3	+ 1.3	42	2†	−14	16	36	2.60	+ 0.76	0.68	18.5	11	1	6	24		W. G. Markham.
Benson Mines	St. Lawrence		2																	R. C. Folger.
Blue Mountain Lake	Hamilton	1,750	10								4.90	+ 1.66	1.87	25.0	11	14	2	15	w.	B. F. Merwin.
Brockport	Monroe	537	14	25.6	+ 3.0	44	18	− 2	4	35	3.40	+ 0.49	0.93	18.5	14	0	9	22	w.	W. H. Lennon.
Buffalo	Erie	767	59	26.1	+ 1.7	48	20	1	3	36	6.41	+ 3.11	1.07	42.6	21	0	5	26	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	16	20.5	+ 4.2	52	22	−14	4	53	1.83	− 1.33	0.70	14.4	16	5	8	18	sw.	Do.
Cape Vincent	Jefferson	246	5	22.7		48	21	−11	3†	40	1.52		0.38		11	11	10	10	sw.	Verne M. Rice.
Carvers Falls	Washington	243	12	19.4	+ 1.8	51	22	−20	16	48	4.44	+ 2.20	1.19	25.0	12	13	5	13	n.	Washburn Fancher.
Chazy	Clinton	151	10	21.0	+ 5.2	45	23	−16	5	41	0.90	− 0.82	0.40	9.0	3	14	1	16	s.	W. R. North.
Dannemora	Clinton	1,490	5	20.0		44	22	−20	4	40	2.08		0.30	16.2	13	9	16	6	w.	W. N. Thaver.
Elba	Genesee	500	11	24.2	+ 0.5	45	18	− 4	4†	41	3.95	+ 0.68	1.00	19.0	10				sw.	Jos. S. Wilford.
Faust	Franklin	1552	10	19.3		48	22	−28	5	57	2.08	− 0.34	0.40	17.0	14	9	4	18	w.	Aaron W. Maddox.
Fayetteville	Onondaga	530	9	25.2		50	22	−14	5	48	2.39		0.37	20.0	14	6	9	16	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	8	18.7		45	22	−28	5	48	2.65		1.00	16.4	22	8	9	14	nw.	Sanatorium.
Harkness	Clinton	622	8	21.1		48	22	−17	5	37	1.50		0.61	8.8	9	19	8	4	sw.	J. W. Harkness.
Hemlock Lake	Livingston	900	12	24.0	0.0	44	18	−14	16	38						3	5	23	s.	D. H. Westbury.
Hunt	...do	1,321	11	27.0	+ 2.8	48	20	− 2	17	37	3.64	+ 0.99	1.01	17.0	10	2	13	16	sw.	W. S. Barrager.
Ithaca	Tompkins	928	32	25.3	+ 1.2	48	22	− 5	4	40	3.07	+ 0.91	0.88	22.8	16	1	9	21	se.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	12	21.2	+ 2.9	40	21	−24	5	51	5.82	+ 2.75	1.93	17.5	13	11	5	15	w.	E. R. Wells.
King Ferry	Cayuga		10								3.17	+ 0.82	0.61	30.8	14	1	10	20	se.	Lucius A. Goodyear.
Lake George	Warren	350	13	23.5	+ 5.0	49	22	−15	5	38	5.11	+ 2.03	1.02	24.5	16	9	9	13	sw.	Charles Forsell.
Lake Placid Club	Essex	1,864	2	18.2		44	22	−22	4	45	4.42		0.62	36.2	15	10	13	8	w.	Henry van Hoevenberg.
Le Roy	Genesee	920	20	24.6	+ 4.1	42	1†	− 2	16	37	3.57	+ 0.09	0.92	20.8	17	1	7	23	sw.	F. W. Ball.
Lockport	Niagara	650	23	25.8	+ 1.5	42	18†	1	4†	36	3.11	+ 0.61	0.78	16.8	16	0	0	31	sw.	J. E. Wakeman.
Lowville	Lewis	900	43	19.6	+ 1.1	46	18	−23	5	57	1.90	− 0.89	0.62		7	10	9	12	w.	Charles J. Rice.
Lyndonville	Orleans		14																	Milton St. John.
Moira	Franklin	200	10	21.6	+ 6.3	53	22	−15	5	38	2.40	− 0.48	0.85	21.0	12	4	12	15	w.	C. E. McBride.
Nehasane	Hamilton	1,750	2	18.6		45	22	−32	5	56	4.85		1.02	39.0	19	16	5	10	w.	A. C. Heyburn.
North Lake	Herkimer	1,822	9																	H. A. Paull.
Ogdensburg	St. Lawrence	175	26	23.4	+ 7.7	48	22	−13	4	40	1.80	− 0.35	0.38	6.7	10	4	15	12	sw.	State Hospital.
Old Forge	Herkimer	1,733	2	19.6		45	22	−27	5	53	5.32		0.85	38.6	22	9	4	18	w.	Stuart W. Nelson.
Oswego	Oswego	335	40	24.8	+ 0.9	47	22	−12	4	47	4.07	+ 0.91	0.69	27.1	21	0	4	27	s.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	6	24.0		44	18	− 2	4	34	2.45		0.64		16	11	3	17		William Winke.
Palermo	Oswego	460	51								6.39	+ 3.13	3.00	57.4	16	7	7	17	sw.	E. B. Bartlett.
Perry City	Schuyler	1,038	30	24.9	+ 3.1	45	22	−11	8	41	2.74	− 0.05	0.55	19.2	13	1	5	25	sw.	W. H. Jeffers.
Philadelphia	Jefferson	485	4	22.1		51	22	−16	5	35	2.43		0.38	17.0	21	3	18	10	w.	E. D. Babcock.
Plattsburg	Clinton	170	60	19.8	+ 2.3	48	23	−13	5	40	1.72	− 0.25	0.40	5.6	13	4	16	11	nw.	T. P. Davison.
Potsdam	St. Lawrence	300	34	20.7[b]	+ 3.1	51[b]	22	−14[b]	5	45[b]	3.37	+ 1.43	0.67	21.0	8	7	2	22	sw.	Lloyd W. Weed.
Raquette Lake	Hamilton		2	21.5		43	21†	−25	5	45	3.99		1.18	30.2	15	9	4	18	sw.	R. J. Dunning.
Rochester	Monroe	523	81	25.8	+ 1.8	45	22	− 1	5	38	3.01	− 0.12	0.73	21.9	16	0	9	22	w.	U. S. Weather Bureau.
Romulus	Seneca	719	18	25.6	+ 1.7	44	22	− 5	5	35	3.50	+ 1.28	0.75	32.5	9	3	4	24	nw.	John H. Coryell.
Shortsville	Ontario	740	11	24.2	− 0.5	43	2†	− 7	16	37	1.48	− 0.53	0.44	8.0	5	5	11	15	w.	C. H. Latting.
Skaneateles	Onondaga		15																	Edward Conron.
Syracuse	...do	597	8	25.1	+ 2.1	51	21	−11	4	48	2.47	+ 0.33	0.60	23.8	16	2	7	22	s.	U. S. Weather Bureau.
Ticonderoga	Essex	344	12	23.8	+ 4.9	50	22	−18	5	38	2.08	− 0.67	1.01	10.0	7	12	6	13	s.	Eva M. De Lano.
Trudeau	...do	1,620	17	22.9	+ 8.6	50	22	−22	5	53	2.81	+ 0.39	0.63	18.5	15	4	10	17	w.	Daniel Smith.
Volusia	Chatauqua	1,167	11	23.2	− 0.9	43	20	0	4†	35	3.90	+ 0.89	0.62	28.0	15	0	8	23	s.	Benjamin Breads.
Watertown	Jefferson	737	18																	L. L. Allen.
Wedgewood	Schuyler	1,430	21	22.8	+ 0.7	45	22	− 5	5	35	4.39	+ 1.89	1.28	31.0	17	6	8	17	sw.	Orlando F. Corwin.
Westfield	Chatauqua	837	14	24.7	− 0.6	46	20	− 2	16	33	4.48	+ 1.93	0.72	29.0	18					John R. Rogers.
Youngstown	Niagara		8								2.84		1.27	9.0	8	0	22	9	sw.	B. V. Brookins.
Vermont.																				
Burlington	Chittendon	404	3	20.5	+ 4.2	50	22	−17	5	47	2.70	+ 0.87	1.04	16.9	19	4	10	17	s.	U. S. Weather Bureau.
Cornwall	Addison	507	17	21.8	+ 2.5	47	21†	−15	5	32	2.90	+ 0.22	0.65	20.0	14	10	9	12	s.	C. H. Lane.
Enosburg Falls	Franklin	601	19	20.2	+ 4.1	53	22	−22	5	45	2.08	− 0.59	0.61	17.3	12	10	4	17	nw.	L. Howe Pomeroy.
Northfield	Washington	876	24	17.9	+ 2.8	49	22	−26	5	47	2.80	+ 0.31	0.77	17.3	14	4	10	17	s.	U. S. Weather Bureau.
Rutland	Rutland			27.7		56	21	−11	5	42	1.67		0.50	16.9	11	12	0	19		H. L. Hindley.
Wells	...do	750	19	20.2	+ 2.0	48	22	−18	5	33	4.19	+ 1.50	1.19	22.0	11	8	9	14	s.	E. R. Pember.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 4, Lake Region.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota.																																	
Cloquet	Lake		T.		.60	.02		.01	T.		T.			T.			T.	T.	T.		.10			T.			.05		T.	.02			0.80
Duluth	do																																
Floodwood	do					.20		T.			T.						T.				.25						T.		T.	T.	T.		0.45
Mount Iron	do	T.				.37	T.	T.	.01		.01						T.	.05			.08			T.			T.	T.	T.	.01			0.33
Stephens Mine	do					.17	T.	T.	.01		.01						T.	.05			.09						.05		T.				0.40
Two Harbors	do				.06	.20					T.																						
Wisconsin.																																	
Appleton	Fox			.10	.60	T.			.04										.02			T.				T.	.35	.03	.02	T.	.07		1.23
Ashland	Lake			T.		.60												.04	.07		.05			T.			.16	T.	.04	T.			0.96
Cecil	Fox			.07	.18	.35			.03									.03	.04			.03					.24	.05	T.	T.			1.05
Chilton	do		T.	.20	.30	.80			.05	T.				.10				10	.20		.04	.10				.02	.18	.03	.05	.03	.05		2.29
Crandon	do		T.		T.	.20												.05	.10		.05	.10	.01				.10						0.61
Florence	Menominee					.35													.52														0.87
Fond du Lac	Fox		.02	.05	.35	.35			.04					.25	.15		.05	T.	.20								T.	.06	.05	T.	T.		1.57
Grand River Locks	do		.13	T.	.32	.09								.54	T.			T.	.04			T.					.10	T.					1.22
Green Bay	Lake	T.	.06	.02	.27	.10		.01	.02					T.				.11	.06		.01					.01	.33		T.	T.	.02		1.02
Herbster	do																																
Iron River	do					.45			.10									T.	.40		.10	.04				T.	.10						0.65
Kewaunee	do		.15		.55																						.30						1.54
Manitowoc	do				.60				.02					.01				.10	.35		.02				.01		.27			.03			1.41
Menasha	Fox		.14		*	1.02			.04					T.				.08			.08		T.			.09	.25	*	.16		.06		1.92
Menominee Falls	Lake		T.		.12	.35			.05					.80	.20		T.	.05	.65			T.				T.	T.	.02	.02	T.	T.		2.26
Milwaukee	do		.04		.75	T.			.06					1.26	.02		T.	.42	.09		T.					T.	.01	.03	.01	T.	.02		2.71
New London	Fox		T.		*	.25		.05										.20								T.	.30	.20			.16		1.16
Oconto	Lake			.16	.10													.25	T.		T.						.20						0.65
Oshkosh	Fox		T.	*	1.00									T.				T.			T.	.10				T.	.15	T.	T.		T.		1.25
Pine River	do			.07	.09				.03					*	.04	T.	T.	T.	.13		T.	.04				.02	.30	.01	T.	T.	T.		1.17
Plum Island	Lake		.06	.03	.25	.26												.09	.11			.15				.09							0.60
Port Washington	do			.07	.09									1.20				.05	.35								.03	.06	.06				2.75
Racine	do				1.00													T.	.42			T.				T.		.02	T.		T.		1.61
Sheboygan	do		T.	T.		.05	.15		.02				.07	.37	.50			T.	.42			T.				T.	T.	.05	.05	T.	T.		2.40
Sturgeon Bay	do			T.	.10	*	1.05		T.					.20	.60			T.	.30			.05				T.	.26			T.			1.50
Superior	do			T.	.02		.91		T.						T.			.06	T.		.01	.24				T.	.31						0.94
Waupaca	Fox		.09		.37									T.				.03	.14														
Illinois.																																	
Chicago	Lake Michigan		.01		.70	T			.06					.55	.59	.16		T.	.70	.03		.05	.07				T.	.06	.01	T.		.08	T.	3.07
Indiana.																																	
Auburn	Maumee			T.	T.					.70				.45	.35	.20			T.	.26		T.	.14					.10		T.	.25	.14	2.53
Berne	do	T.				.32	T.							.63	1.16	.09		T.	.37	.38	.04	.01	.04				.04	.01		T.	.06	.03	3.18
Elkhart	St. Joseph			T.		.37	T.			.10				.30	.45	.01			T.	.03			.02		T.		T.	.02	T.	.02	.13	.10	1.57
Fort Wayne	Maumee		T.	T.		.23				T.				.58	.97	.03		T.	.15	.33		T.	T.	.0		T.	.05	.01	T.	T.	.05	T.	2.43
Hammond	Lake Michigan					.18						.10	.12	.10					.71				.20				.62						2.03
Howe	St. Joseph									.20				.40	.60					.80										.10	.20	2.30
South Bend	do		.20	.60		.30	.20		.10			.05						T.	.20	.60		T.	.40		.30			.20			.10	T.	2.91
Whiting	Lake Michigan		T.	T.		.65				.04	T.		.16	.60	.40			T.	.49			.05	.13					.12		T.	.08	.15	2.09
Michigan—Upper Peninsula.			.08	.11	.09	.19	.14	T.	.18	.05	.04		T.	.53	.33	.04		T.	T.	.61		T.	T.								T.	.01	
Baraga	Lake			.20															.30			.80											1.30
Bergland	Ontonagon			.25		.20													.15		.20	.18		T.			.08		T.	.06	T.		1.12
Blaney	Manistique																																
Calumet	Lake		.08	.08	.02	.36	.52	.88	.36	.32	.04			T.				.02	.12		.12	.20		.02		.02	T.	.06	T.	.12	.36	.38	4.08
Chatham	do			.08	.02	.46				.24	.04							.02	.18	.02	.02	.26		.08	.01	.06	.17	.24	.05	.05	.58		2.59
Deer Park	do			.08	.02	.46													T.			T.				T.			.20	T.			2.25
Detour	St. Marys		T.	.35		T.	.90	.80																									
Eagle Harbor	Lake	T.	T.	.02	.04	.17	.17	.08	.03	.05	.05								.10			.15	.07	T.		T.	T.	T.	T.	.08	.04	T.	1.06
Escanaba	do		.05	.01	.28	.40		T.	T.								T.	T.	.09	.10	.02	.07	.03	T.	T.	.04	.41	.01	T.	.01	T.		1.52
Ewen	Ontonagon			.10	.20	T.	T.	T.										T.	.40	.80				.10			.20	T.	T.	.20	.10		2.10
Grand Marais	Lake		.20	.60		.30	.20		.10			.05						T.	.20	.60	T.	.40		.30						.20	.10	T.	3.25
Houghton	do		.08	.11	.09	.19	.14	T.	.18	.05	.04		T.	T.					.65	.08		.35	.09		.01	T.	T.	T.	.01	.01	.07	.25	.01	1.82
Humboldt	Escanaba																																
Iron Mountain	Menominee			T.	T.	T.	.35			T.									T.	.12		T.			T.		T.	.03	T.				0.50
Iron River	do	T.			T.	.40													.40	.30		T.			T.	.20				.30			1.60
Ironwood	Lake					.40													T.	.30		.20	.40		.10			T.	T.	.10		.10	1.60
Ishpeming	Escanaba			.01		.40													.02	.30			.60		.01		.02	.03	.03	T.			1.42
Isle Royale	Lake																																
Mackinac Island	do																					.40				.20			.10				1.10
Maple Ridge	do					.40																											
Marquette	do			.02	.02	.36				T.	T.			T.					.13	.35		.25	.39		T.	T.	.01	.03	.09	.02	.04	.32		2.03
Menominee	Menominee			.08		.50			T.					T.					.20				T.			T.	.10						0.88
Newberry	Tequamenon			.20			T.	T.	T.	.10									T.	.10			.10	T.									0.50
Powers	Lake																																
St. Ignace	do				.05	.30	.10	.10	.50											.60							.68	.76					2.49
Sault Saint Marie	St. Marys		.02	.10	.11	.34	.05	.02	.02	.02	.02								.01	.36	T.		.01		.01	T.	T.	.01		.03			1.15
Thomaston	Lake			.10		.20															.20		.20					.10			.10		0.90
Victoria	Ontonagon			.08	T.	.13					.01							T.	.16		.21	.12		T.		T.	.15	T.		.02	.01		0.89
Watersmeet	do			.02	T.	.18					.03							.03	.17		.07	.12	T.	.02		.02	.08	.02		T.	.04	T.	0.80
Wetmore	Lake			.40	.20					.70									.20			.70		.10					.70	.20		3.20
Whitefish Point	do		.02	.15	.01	.03	.10		.01		.07								.35	.04		.10		.04		.08			.02	T.			1.02
Michigan—Lower Peninsula.																																	
Adrian	Raisin	.01				.24								.35		.70		1.20						.10			.36	.05			.10	.10	3.21
Agricultural College	Grand	.20	.40	.20					.16						.20	.70			.05		.06		.05		T.		.06	.07	.03	T.	.15	.25	2.52
Allegan	Kalamazoo	T.		.10	.10	.30	T.	.20	.10	.40			.10	.40	.30			T.	.36			T.			T.		.19	.10	.10	.20	.30		3.15
Alma	Saginaw			T.		.67			.03	.04					.36				.40							T.	.09	T.	T.		.18	.08	1.85
Alpena	Lake		.03	.04	.31	.24			T.	.02	T.			T.				.22	.28			T.	.18	.02	T.	T.	.20	T.		T.	.02	T.	1.56
Ann Arbor	Huron		.08			.37							.01	.80	.10			.03	.55				T.	T.	T.		.18	T.			.14		1.48
Arbela	Saginaw			.20		.13		T.	.13					T.	.26				.44						T.		.09	.05			.15	.15	2.48
Battle Creek	Kalamazoo	.03	T.	T.	T.	.66	T.		T.	.06			.16	.77	.61			.14	.44			T.		.30			.08	.10	T.	T.	.07		3.12
Bay City	Saginaw			.15	.30										.15			.20	T.								.10				.15	1.35
Benzonia	Betsie	T.		.27	T.	.18	.22	.13	.04	T.				T.	T.		.12	T.	.78			.13		T.	T.	T.	.32	.26	.14	T.	T.		2.59
Berlin	Clinton	T.		.18		.52			T.	T.					.09	.36		T.	.44		.07	T.	.47	T.	T.		.24	.08	T.		.04	.02	2.51
Big Rapids	Muskegon	T.	T.	T.		.60	T.	T.	.40						T.				.20			T.			T.	T.	.10			T.			1.30
Bloomingdale	Lake	T.	T.	T.	T.	T.	T.	T.	T.	T.			.30	.60		T.		.05	.03			T.					T.	T.	T.	T.	.20	.20	1.38
Cadillac	Manistee																																
Cassopolis	St. Joseph				T.	.06				T.			.40	.60				.05				T.					.01				.20	.40	1.72
Charlevoix	Lake			.40		.30	.40		.30										.60								.20						2.20
Charlotte	Kalamazoo	.04	T.		T.				T.					.34	.28			T.	.45								.02			.10	.10	1.33
Cheboygan	Cheboygan			.05		.30	T.	T.	T.										.27								T.	.80	T.	T.	T.		1.42
Clinton	Raisin			T.		.46							.15	*	.60				.63				.22				.03				.15	T.	2.24
Coldwater	St. Joseph			T.		.50				.10			.40	.30	.10				.42			T.			T.		T.	.10		T.	.10		2.02
Concord	Kalamazoo																																
Croton	Muskegon	T.			T.	.10			.30	T.				.10	.20			T.	.25							T.	.07	T.		T.	T.		1.02
Detroit	Detroit		.06	.02	.01	.29	T.	T.		T.				.74	.40		T.	.40	.14		.01	.28	.33	T.	T.		.12	.02	T.	T.	.18	.14	3.14
Durand	Saginaw																																

TABLE 2.—*Daily precipitation for January, 1910. District No. 4*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Michigan—Lower Peninsula—Cont'd.																																	
East Tawas	Lake				1.20													.10	.20					.05			.20						1.75
Eloise	Rouge																																
Flint	Saginaw		.02	.09		.50									.05			.01	.50				.10				.08					.08	1.43
Frankfort	Betsie			.20		.50	.20		.40	.20									.30			.20		.10		.05	.30	.10	.10				2.65
Ganges	Lake		T.	.02	.10	.14	T.	.21	T.	T.			T.	.08	.04			.11	.52			T.					T.	T.		.09	.30		1.68
Gayford	Cheboygan																																
Gladwin	Saginaw																																
Grand Haven	Grand	T.	.04	.03	.40	.11	.05	.03	.18	.06				.41	.15		.01	.34	.10		.01	.04		T.	.01	T.	.15	.07	.03	.02	.14		2.41
Grand Rapids	do	T.	.01	.02	.30	.35	T.	.01	.11					.39	.31		.01	.37	.04		T.	T.		T.	T.	T.	.05	T.	.01	T.	.06		2.04
Grape	Raisin																																
Grass Lake	Grand		T.	.05	T.	.44									.15				.60			.05			T.		T.	.10	T.		T.	T.	1.40
Grayling	Au Sable	T.	T.	.20	.10	.10	T.	.20	T.	T.	.10		T.	T.	.50	T.	.05	T.	1.20	.10	T.	T.	.05	T.	.10	.40	.15	T.	T.	.10	.10	T.	3.45
Harbor Beach	Lake			.30	.20				.20	.30	.20				.20				.20				.50				.20	.20			.10		2.60
Harrison	Saginaw								.30										.80						.10		.20						1.40
Harrisville	Lake			.10	.20	.30			.10	.05									.20				.40	.10	.10	.10	.10	.10		.05	T.	.05	1.95
Hart	Pentwater		.20	.10	T.	.20		.10	.60	T.				T.					.20			.10							.10				1.60
Hayes	Pigeon																																
Highland	Huron					.50								.30	.40			.27	.31				.40		.05		.28			.10		.30	2.91
Hillsdale	Saint Joseph	.10		.02	T.	.35	T.	.02	T.	.06			.25	.51	T.			.18	.02		.07	T.	.02		T.		.10	.06	T.	T.	.07		1.83
Holland	Lake		T.	T.	.33	.10	.15	.10	.22	.05	T.			.33	.32			.20	.21			.05	T.	T.	T.		.07	.06	.05	.05	.19	T.	2.48
Howell	Saginaw																																
Ivan	Manistee		T.	.05		.12	T.	T.	.06	.20								T.	.26			.06			T.	T.	.15	.15	T.	T.	T.		1.06
Jackson	Grand																																
Jeddo	St. Clair	T.		.30	.02	.20		T.	T.	.05				.10	.60		T.	.24	.22		T.	T.	.40	.15	T.		.14	.05	T.		.05	.05	2.57
Kalamazoo	Kalamazoo			.05					.05	.02			.20	.60	.15												.30		.10		.20	.10	1.77
Lansing	Grand	T.	.15	.15	T.	.50			T.	T.				.30	.40			.13	.47		T.	T.	.05		T.		.10	.07	T.	T.	.10	.10	2.52
Lapeer	Saginaw			.20										.05	.30				.25		.03		.20	.20			T.						1.23
Ludington	Pere Marquette																																
Luther	Manistee	.14		.09		.31	T.	T.	.12									T.	.54			.03		.04	T.	T.	.14	.05	.08	T.	.01		1.55
Mackinaw	Lake					.10	.05	.30	.70									.05	.40								.20			.05	.10		1.95
Mancelona	do		T.	.30	.10	.30	.20	T.	T.	T.								T.	.40			T.			T.	T.	.20	.20	T.	T.			1.70
Manistee	Manistee		.10	T.	.40	T.	.10	T.	.40										.30			.40					T.	T.			T.	T.	1.70
Midland	Saginaw																																
Montague	White																																
Morenci	Maumee					.27				T.			.40	.55	.20				.76			.04	T.				.05	T.			.06	.03	2.36
Mount Clemens	Clinton		T.	.05		.05				.20				.18	.40			.03	.50		.02	T.	.25	.03	T.		.10	T.			.06	.20	2.08
Mount Pleasant	Saginaw																																
Muskegon	Muskegon	T.		T.	T.	T.		.20	.20	.20				.80	.40			T.	.40			T.	T.				T.	T.	.40	T.	.40		3.00
Old Mission	Lake			.12			.30	.03	.03	.15								.04	.30			.03					.30				.25		1.60
Olivet	Kalamazoo				.10	.55			T.	.03			.02	.26	.37			.20	.48		.02				T.		.04		.05		.23	T.	2.35
Omer	Lake		T.		T.	.40													.20					.10			.20						0.90
Onaway	Cheboygan			.30		.40													.60								.30				.20		1.80
Ovid	Grand																																
Owosso	Saginaw	T.		.10		.30			.05	.05				.10	.40				.64		T.	T.		T.	T.		.04	.05	.03	T.	.10	.10	1.96
Petoskey	Lake			.10		.20	.10	.30	.30									.10	.30	.10		.10			T.	.10	.10	.40		.10	.10		2.40
Plymouth	Rouge	T.		T.	T.	.20								.20	.10				.64												.10		1.24
Pontiac	Clinton	T.	.05	.06		.45								.27	.81			.03	.48				.25		T.		.07	.05			T.	.17	2.69
Port Austin	Lake																																
Port Huron	St. Clair	.01	.11	T.	T.	.27			.01					.28	.30			.27	.11		.01	.04	.28	.04	T.		.13	.06	T.		.05	.02		1.99
Reed City	Muskegon	T.		.08	T.	.10	T.		.40										.40			.05					.05						1.05
Roscommon	Au Sable																																
Saginaw	Saginaw	.30	.15	T.	T.	.20	T.	T.	.05	.20	.05	.05		T.	.20	.10	T.	.15	.15	.10	T.	T.	.20	T.	T.		.10				.20	T.	2.20
Saginaw, W. S.	do	T.	T.	.07	T.	.42	T.	T.	.03	.02				T.	.05			.02	.42		T.	T.	.07	.01	T.	T.	.11	.02	T.	T.	.07	T.	1.31
St. James	Lake																																
St. Johns	Grand																																
St. Joseph	St. Joseph				T.	T.	T.	.10	T.				.30	.90				.01	.13		T.	.20								.20		1.84
Sandusky	Lake																																
Saranac	Grand	T.		T.		.58			T.	T.				.05	.31				.62								.01	.10			.06	.06	1.79
South Haven	Lake																																
Stanton	Grand																																
Thornville	Saginaw					.30					.12			.10	.40								.12		.50	.50		.20	.20	.10		.15	.25	2.94
Traverse City	Lake		.20		.40		.10									.20		.20									.40	.20					1.70
Vassar	Saginaw																																
Wasepi	St. Joseph		T.		T.	1.35				.20			.50	1.00	.20			.25	.20			T.					.07			.02	.05	.10	3.94
Webberville	Grand			.10		.20								.20	.60			.04	.19				.05		T.		T.	.05			.10	.20	1.73
West Branch	Lake																																
Woodlawn	Au Sable			.20		.60		T.	T.							T.		T.	.80			.05		.10			.40	.20		.20	T.		2.55
Ypsilanti	Lake		.01			.27							.10	.50	.40			.22	.51		T.		.30				.05		.02		.20	.10	2.68
Ohio.																																	
Akron‖	Lake	T.		T.		.23	.48	.20		.01	T.		*	.53	.37	T.		.01	.28	.05		.32	.26	.06		T.	*	.09	T.		.06	.02	2.97
Benton Ridge	Maumee						.15			.05			.40	.30	.20			.50	.80		.04	.10	.80		T.		T.	.05		T.	.10		3.49
Bowling Green	Lake					.20	.15			.05			.40	.60	.50			T.	.65		T.	T.	.60		T.		T.	.10			.20	.10	3.55
Bucyrus	Sandusky													.75				.40	.40		T.	.50	1.00		.30							3.35
Cleveland (1)	Lake	T.	.01	.03	.01	.12	.38	.05		.08				.22	.47	.19	T.		.66	.35		.05	.44	.69	.01	.02	T.	.10	.18	.02	.02	.13	.06	4.29
Cleveland (2)	do		.03	.03	.02	.08	.60	.15	T.	.06				.35	.55			.70	.27		T.	.50	1.50	.30			.20	.10				.18	5.62
Defiance	Maumee	T.	T.	T.		.27				T.				.36	.41	.07		.22	.25		T.	T.	.07		T.		.03	.04	T.	T.	.04	.02	1.78
Findlay‖	do					.87	.10				T.		T.	1.35					.69			.05	.60							T.	.10		3.96
Fremont	Sandusky					T.	.17			T.			*	*	1.30			*	.70		.19	*	.99				*	.20			.09	T.	3.64
Hedges	Maumee	.03					.36						.58	1.43		.07		.10	.50		.04	.10	.30		T.		.07				.20		3.78
Hillhouse	Lake			T.	T.	.20	.22	.11	T.	T.			T.	.28	.30				.90			.41	1.50	T.	T.		T.	.36	T.	T.	T.	T.	4.28
Hiram	do			T.		.23	.43	.10		.03			.17	.50	.30			.05	.78			.45	.28	.02	T.		T.	.25		T.	.09	.05	3.73
Hudson	do		.30			.50	.30	.10		.10		.30	.40	.30	.20			.15	.33			.20	.50					.20	.30		.10		4.28
Lima	Maumee	.58	.05	.04			.30			T.	T.		.92	1.02	.20			.37	1.10		T.	.14	.70				.15		T.	T.	T.	5.57
Medina	Lake					.22	.33	.12		.06			.32	.63	.24			.10	.96			.43	.42		T.		.09				.22	T.	4.14
Montpelier	Maumee			T.	T.	T.	T.			.20			.50	.60	.30			.70	T.			T.	T.			T.	.10	.10	T.	T.	.20		2.70
Napoleon	do	.40				.46				T.			.40	.70	.10			.65	T.		T.	T.	.40	.16			.03	.03			.10		3.43
New Bremen	do	T.				.30	.35						.46	1.14	.25		T.	.19	.46		T.	.15	.19		T.		T.				.10		3.59
North Royalton	Lake					.18	.30	.20	.10				.20	.60	.40			.25	.68			.20	.80				.38	.10			.10		4.49
Norwalk	do					.14	.40	.10		.10			.25	.45	.40			.05	.70		.02	.25	1.10				.02	.10			.05	.01	4.12
Oberlin	do			T.	T.		.36	.09		.04			.29	.56	.34			.11	.51		T.	.40	.82	T.	T.	T.	.07	.16	T.	T.	.09	T.	3.84
Ottawa	Maumee	T.	.04				.04	.02	T.	.20		.02	.38	1.00	T.	T.		.40	.48		T.	T.	.15		T.		T.		T.				2.73
Rome	Lake																																
Sandusky	do		T.	.01	T.	.18	.13	T.		.33			.30	.52	.23			.63	.09		.10	.42	.88	T.	T.		.02	.20	T.	T.	.09	.01	3.84
Tiffin	Sandusky	T.	T.	.02	T.	.23	.40	.05		.05			.20	.79	.10	T.		.05	T.		.11	.43	.90	T.	.02		.13	.33	T.	T.	.10	.10	4.91
Toledo (1)	Maumee	T.	T.	.01	.03	.35	T.	T.		T.			.46	1.10	.14	T.		.55	.33		.01	.16	.31	T.	T.		.09	.12	T.	T.	.09	.01	3.76
Toledo (2)	do	T.	T.	.01		.01	.31	T.	T.	T.			.51	1.00	.35			.30	.55		.01	T.	.45	T.	T.		.03	.15	T.	T.	.07	.03	3.78
Upper Sandusky	Sandusky	T.		T.		.10	.30	.15		.10	.05		.10	.95	.75			.05	.53		T.	.25	.80				.05	.05		T.	.10	.10	4.43
Vickery	Lake					.17	.10	.02		.01		.12	.40	.84	.21	T.		.28	.42		.08	.26	.70	T.	T.		.04	.04	.01		.08	.10	3.88
Wauseon	Maumee		.01	.06	T.	.32	T.			.02			.50	.97	.17			.25	.37		.01	.03	.25	T.			.03	.11	T.	T.	.04	.02	3.16
Wellington	Lake			T.		.11	.38			*	*	*	.47	.54			T.	.26	.45		.04	.35	.30				.03	.37			.10	T.	3.40
Willoughby‖	do				.74		.30	.10								1.00			1.40			.22	.75					.22				.20	4.93
Pennsylvania.																																	
Erie	Lake	T.	.03	.07	.21	.07	.34	.10		.06				.24	.21	T.		.19	.54			.93	.90	.02	.02	T.	.13	.07	T.	T.	.07			4.00

TABLE 2.—*Daily precipitation for January, 1910. District No. 4*—Continued.

Stations.	River basins.	Day of month.																													Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York.																																	
Adams Center	Lake			.40	.40	.67	.20	.10	.40	.20	.10	.15	.10	T.	.40	.30	.20	.40	.75	.05	.40	.48		.40	.20	.10	.10	.20	.20	.60	.20	.15	7.78
Angelica	Genesee			.10	.03	.20	.41	.24	T.		.06				.57	.01			.67			1.03	.24	.30		.01	T.	.22	.01	.14	.11	T.	4.14
Appleton	Lake			.10	T.	.30		.15		T.	T.				.15			T.	.62	T.		.75	.20	T.			.22	T.			T.	.10	2.59
Auburn	Oswego			.09		.24	.32	.55		.07	.04				.73				1.00	.09		.12				.06	*	.11		.25	T.		3.67
Avon	Genesee	.02		.32		.14	T.	.25	T.	.06	.25				.40	T.			.37	T.		.68	T.				.08	T.	T.	T.		.03	2.60
Benson Mines	St. Lawrence																															
Blue Mountain Lake	Raquette			.40		.36	.20	.30					.10		.15				.68	.10		1.87		T.	T.		.20	T.	T.	.60			4.90
Brockport	Lake		.01	.25	.02	.18	.08	.32		T.	.05				.67				.51			.95	.05				.03	.21			T.	.07	3.40
Buffalo	Lake	T.	.14	.12	.01	.32	.37	.46	T.	.37	.02	T.	T.	.07	.78	T.	T.	.19	.88	T.		.83	.83	.02	T.	T.	.22	.45	.04	.01	.16	.22	6.41
Canton	St. Lawrence	T.		.06		.14	.05	.13	T.	.09	T.	T.	.03	T.	T.		T.		.27	.01		.10	.03	.01	.01	.05		.14	T.	.70	.01		1.83
Cape Vincent	do		.05	.11		.38		.21		.05					.05				.23			.27		.07				.04		.06			1.52
Carvers Falls	Lake		.03	.26			1.19	.54											.57	.32		.07	.48			.26	.19	.22			.31		4.44
Chazy	do							.40					T.									T.					.10			.40			1.90
Dannemora	do		T.	T.	.15	.20	.10	.30	T.		.30		T.	T.	T.				.05	.05		T.	.15			.08		.10	.05	.30	.25		2.08
Elba	Lake		.90	.30	T.	.15	T.	.30		T.	.20				.60				1.00			.90	T.	T.		T.	T.	.20			T.	.30	3.95
Faust	St. Lawrence		.09	.03	.03	.12	T.	T.			.10		.08		T.				.30	.06		.30	.20	.12		.18		.07	T.	.40			2.08
Fayetteville	Oswego			.12	.02	.37	.36	.37	T.	T.	.08				.21	T.		T.	.24	T.		.16	T.			.01		.08	T.	.24	.06	.07	2.39
Gabriels	Lake			.08	.06	.12	.08	.22	.05	.02	.05	.01	.05	.01	.02				.03	1.00		.01		.02		.21		.12	.03	.35	.08	.03	2.65
Harkness	do			.05	.05	.01		.25															.61			.10		.08	.36	.03			1.50
Hemlock Lake	Genesee																															
Hunt	do	.27					.30				.08				.76				.65			1.01	.13				.09		.16		.19	3.64
Ithaca	Oswego		T.	.05	.01	.10	.78	.27		.06	.06				.48	T.		T.	.28	T.		.39	T.		T.	.10	.03	.01	.02	.29	.14		3.07
Keene Valley	Au Sable			.09		.35		.28			.11		T.		.09			.74	T.		1.93	1.47	.03		.03		.15		.36	.19	T.	T.	5.82
King Ferry	Oswego			.14			.46	.38		.40					.61				.34	.14		.19	.01			.09		.11	.02	.15	.13		3.17
Lake George	Lake			.21		.35	1.02	.43			.07		.02		.04				1.02	.13		.87	.30		.03	.22		.04		.27	.09		5.11
Lake Placid Club	Au Sable, W. Br.			.60	.35	.03	T.	.40			.15	T.	.21	T.	T.				.35	.21		.32	.28			.31	.10		.41	.62		.08	4.42
Le Roy	Genesee		.02	.25	.05	.15	.16	.25	.02	.11	T.				.62	T.		T.	.40			.92	.10	T.		T.	.16	.19	.01	T.	.05	.11	3.57
Lockport	Lake		.06	.16	.01	.15	.06	.25		.06	.02				.25			T.	.67			.78	.22	.05	T.	T.		.25	.02		T.	.10	3.11
Lowville	do												.15		.10				.62			.38							.15	.35	.15		1.90
Lyndonville	do																															
Moira	St. Lawrence			.10		.25	.10	.40	.65	.05	.10	T.							.30	.05	T.	T.				.10		.05		.85	T.		2.40
Nehasane	Lake			.47	.03	.27	.16	.21	.15		.10		.10		.10				.51	.48		.21	.40	.11		.19		.14	.11	1.02		.09	4.85
North Lake	do																															
Ogdensburg	St. Lawrence		T.	T.	.14	.22	T.	.04	T.	T.	.04				T.				.31	T.		.38	.22	.10		T.		.15	T.	.20	T.		1.80
Old Forge	Lake		.01	.32	.64	.42	.43	.20	.04		.05	.04	.02		.10				.11	.25		.09	.85	.25		.23		.16	.24	.68	.10	.08	5.32
Oswego	do		.01	.31	.03	.34	.29	.25	T.	.29	.16				.38		T.	.05	.64	.07		.39	.02	.31	T.		.08	.07	.02	.10	.60	.05	4.07
Otto	do		.06	.03	.02	.04	.20	.03		.10	.03			T.	.04		T.		.45			.62	.64	.03			.01				.06	.09	2.45
Palermo	Lake	.05	T.	.21		.10	3.00	.63		.64	.20			T.					.14	.10		.06			T.		.05	.10	.06	.20	.40	.15	6.39
Perry City	do			.02	T.	.20	.55	.45			.25					.08			.38			.34		.10		.07	T.	.10	.04			.16	2.74
Philadelphia	St. Lawrence		T.	.07	.01	.29	.06	.18	.35	.03	.04		.02	.01	.03		.01		.38	.15		.15		.17		.07		.19	.08	.13	.01		2.43
Plattsburg	Lake				.05	.02	.20	.40	.25		.03			T.							.01		.37	.02		.12		.05	.10		.10		1.72
Potsdam	St. Lawrence					.67		.46		.31	.18		T.						.53	T.		.23				T.				.67	.32		3.37
Raquette Lake	Raquette			.35	.08	.20	.35	.31			.03		.04						.30	.27		.14	.29	.04		.08		.23	*	1.18			3.99
Rochester	Genesee		.02	.25	.03	.18	.22	.33		.06	.01				.44	T.		.01	.42	T.		.73	.01		T.	T.	.21	.07	T.	T.	.02	T.	3.01
Romulus	Oswego			.21			.60	.43		T.					.75	.30			.16	.20		T.						T.		.55	T.	.30	3.50
Shortsville	do		T.			.24		.41			.23				.16				.44	T.							T.	T.		T.	T.		1.48
Skaneateles	do																															
Syracuse	do		T.	.23	.01	.17	.50	.12		.05	.01				.32	T.		.03	.57	T.		.08	T.	T.	T.	.04	.04	.09	T.	.16	.05	T.	2.47
Ticonderoga	Lake			T.		.08	.30	.18					T.									10	1.01				.03	T.	T.	.38			2.08
Trudeau	do		.17	.16	.07	.22	.37	T.	T.		.21	.09	.25	T.				T.	.04	.06		.17	.14	T.	.07	.16	T.		T.	.63		T.	2.81
Volusia	Lake		.11	.12	T.	.20	.30	.25		.10	T.			T.	.30				.59	T.		.55	.62	.12	T.		.01	.45	.07	T.	.11	T.	3.90
Watertown	do																															
Wedgewood	Oswego			.02	T.	.03	.87	.41		.02	.18			*	.70	.16			.28			.58	.12	.08		.07	T.	T.	.02	.60	.20	.05	4.39
Westfield	Lake			.07	.09	.39	.32	.39	.07	.27	.02			.16	.33				.72			.49	.60	T.		.09	.11	.17	.08	T.	.11	T.	4.48
Youngstown	do				.12										.65				.19			.21	1.27				.03	.28			.09	2.84
Vermont.																																
Burlington	Lake		.02	.02	.01	.34	.83	.21		T.	.01	T.	T.	T.	T.				.09	T.		.05	.42	.02	.02	.12	.01	.15	.01	.31	.05	.01	2.70
Cornwall	do		.01	T.		*	.65	.40	.02		.05								.25			.05	.54		T.	.30		.10	.05	.40		.08	2.90
Enosburg Falls	do		T.	T.	T.	.25	.07	.31			.04								.07	.04		T.	.61			.15		.05	.11	.18	.20		2.08
Northfield	do			.10	T.	.04	.70	.22			.04		T.						.35	T.		.49	.35		.04	.10		.11	.01	.18	.07	T.	2.80
Rutland	do			.10	.20		.30	.50			.01							.01	.01						.10		.02			.40	.02	1.67
Wells	do		.03	.26			1.19	.54											.57	.32		.07	.48			.26		.16		.31			4.19

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Michigan, Upper Peninsula.										Michigan, Lower Peninsula.					
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie		Alpena.		Battle Creek.		Cadillac.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	29	− 1	36	9	37	16	38	24	40	32	40	19	37	15	25	10	36	12	42	16	35	22	39	18	37	18	33	19
2...	9	− 5	26	4	25	10	29	14	36	21	39	28	18	10	21	5	17	10	16	10	24	13	30	17	37	22	.....	.....
3...	7	−17	.....	.....	10	−10	14	− 5	21	1	32	16	12	− 3	10	4	14	− 4	13	− 3	16	−11	20	2	22	9	16	− 1
4...	14	−16	10	−15	18	−14	23	− 6	22	1	17	4	18	− 5	11	− 4	16	2	13	3	6	−15	19	4	13	− 1	9	− 4
5...	13	− 4	15	5	21	− 5	25	− 2	31	4	35	17	25	1	15	− 1	19	13	20	9	24	6	31	14	31	10	24	6
6...	6	−12	9	− 6	1	−13	5	− 9	8	− 4	21	10	19	− 3	12	− 3	14	8	18	6	19	5	23	6	17	7	12	7
7...	10	− 6	13	−15	6	−18	12	−10	22	− 5	18	0	14	− 9	15	− 2	16	3	18	3	14	−11	22	1	16	2	12	10
8...	4	−10	13	−12	14	− 3	17	6	31	14	32	12	20	− 5	19	−21	16	4	22	5	18	− 2	22	7	27	3	20	7
9...	11	− 6	17	−10	7	−11	14	0	16	2	26	15	25	2	18	−16	20	− 7	25	12	12	−12	21	6	25	13	24	− 2
10...	18	4	17	− 8	22	− 9	25	5	28	10	29	3	24	− 2	13	−16	23	− 6	22	10	19	−15	21	− 5	23	− 1	18	9
11...	21	15	26	10	31	16	35	25	38	26	34	16	25	14	23	− 2	26	17	28	18	23	15	27	21	30	15	28	17
12...	25	13	24	9	27	12	33	27	35	33	34	31	29	15	23	− 3	26	10	29	20	30	22	32	26	30	22	28	22
13...	27	22	25	11	29	21	31	27	34	29	34	30	26	16	31	10	28	23	29	23	25	10	30	24	30	25	26	17
14...	27	17	28	8	22	5	32	19	32	28	33	25	30	10	33	5	31	2	30	17	23	0	25	7	27	20	24	15
15...	25	12	29	−10	19	− 1	26	11	29	24	27	23	25	− 1	31	−10	36	− 5	32	15	23	− 6	25	1	28	20	20	0
16...	30	22	26	6	31	18	31	23	33	27	30	25	30	16	29	14	32	22	30	17	31	18	29	23	30	22	26	19
17...	31	12	32	24	33	29	34	30	40	32	37	29	32	30	34	28	35	27	32	29	31	28	32	27	35	25	30	25
18...	17	− 1	29	12	32	10	33	16	37	18	46	28	31	12	33	11	27	14	32	16	31	18	33	19	39	28	30	22
19...	33	7	30	0	27	10	37	12	41	18	43	18	24	7	43	− 2	35	6	38	11	30	14	30	13	35	15	29	16
20...	30	12	32	15	40	23	40	27	43	30	43	36	37	22	32	3	34	19	36	20	35	29	39	19	39	31	40	26
21...	24	5	26	12	28	18	27	19	30	23	40	26	24	20	26	− 4	20	15	23	19	33	10	35	18	38	22	35	15
22...	24	13	25	9	28	12	23	14	28	18	32	21	28	15	22	−10	25	13	24	19	20	8	23	16	28	16	25	11
23...	25	9	25	17	31	16	28	16	31	22	38	21	30	20	25	17	27	15	27	19	26	10	31	18	29	20	26	20
24...	20	0	25	18	29	14	28	22	33	29	33	24	28	9	30	14	25	9	27	13	27	20	30	22	31	25	30	18
25...	26	15	21	− 8	31	9	35	19	35	27	34	14	28	0	25	−17	29	0	28	8	28	19	30	21	30	8	25	18
26...	29	21	27	20	34	28	40	31	46	33	53	30	30	23	25	18	31	24	30	26	27	24	33	26	45	28	32	22
27...	26	18	28	20	30	23	32	29	37	30	36	32	30	18	28	20	25	18	28	20	26	10	33	19	33	29	32	22
28...	28	14	26	13	26	13	30	25	34	28	34	28	28	16	26	12	26	19	28	20	23	4	30	17	30	24	26	12
29...	23	11	23	12	26	13	27	22	31	23	33	25	27	10	24	5	20	14	24	15	20	12	30	19	29	21	24	10
30...	19	3	20	− 2	20	11	24	15	29	21	34	25	24	5	22	−11	18	13	19	12	19	2	27	19	28	20	23	15
31...	25	6	23	−12	20	− 2	26	11	30	16	29	14	20	2	22	−20	24	− 1	22	6	18	1	27	12	24	6	25	11
Mns	21.2	5.6	23.8[a]	4.5[a]	24.4	7.8	27.5	14.7	31.6	19.7	33.7	20.8	25.7	9.0	24.1	1.1	24.9	10.0	26.0	14.1	23.7	8.0	28.4	14.7	29.5	16.9	25.1[a]	13.5[a]

Date.	Michigan, Lower Peninsula.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Detroit.		Muskegon.		Saginaw, W.S.		Cleveland.		Lima.		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	38	20	34	18	38	13	42	23	40	24	41	26	40	24	43	25	41	23	39	12	43	18	41	18	31	4	33	−14
2...	35	25	34	18	37	22	42	29	41	31	39	29	39	28	42	28	40	24	38	17	43	26	42	26	40	21	44	22
3...	25	4	20	8	24	4	29	9	33	11	30	7	28	10	29	12	26	12	27	1	27	11	28	10	27	6	24	8
4...	18	2	11	− 1	14	− 4	22	9	19	5	22	6	21	3	15	8	12	1	1	−14	11	− 1	10	−11	6	−16	8	−22
5...	36	14	30	9	33	7	41	22	37	18	41	19	37	17	40	15	38	2	39	−14	37	− 1	39	− 9	30	−17	17	−26
6...	20	14	15	11	18	9	23	15	28	11	19	14	19	14	31	19	33	19	30	22	35	21	39	21	36	22	34	17
7...	17	10	18	11	16	4	17	5	17	3	17	6	17	11	19	8	21	18	22	6	23	15	24	18	22	11	24	5
8...	25	10	20	11	26	6	25	4	16	1	27	6	27	11	26	7	27	9	23	15	28	8	23	10	19	8	20	− 1
9...	24	17	20	10	26	3	22	20	27	8	24	13	26	17	25	17	24	16	25	12	26	20	29	21	26	18	26	10
10...	25	13	25	4	23	3	23	8	23	− 1	24	8	24	9	21	10	18	12	12	− 1	21	10	21	10	20	3	18	− 4
11...	30	16	32	17	39	18	29	12	33	13	33	15	33	15	30	16	29	15	25	2	26	9	27	11	16	0	12	−11
12...	33	27	32	15	33	21	35	29	34	32	35	30	34	29	34	29	34	27	27	7	33	26	32	23	21	13	22	− 1
13...	31	25	30	25	31	24	35	30	35	32	32	30	30	26	32	26	28	21	22	6	29	23	26	16	22	8	23	9
14...	25	20	27	15	27	21	32	25	35	23	30	20	26	21	33	26	23	21	10	1	24	20	21	16	8	1	14	7
15...	27	22	24	10	29	21	28	22	27	22	26	21	27	22	27	16	23	16	15	− 6	23	10	17	10	11	− 5	20	− 8
16...	28	24	31	22	29	23	28	22	30	25	27	24	29	24	27	10	26	15	25	6	25	6	29	9	22	− 6	21	−16
17...	37	27	33	26	35	26	41	26	40	29	41	27	41	27	39	24	39	22	28	21	38	16	36	4	28	6	27	− 8
18...	40	28	.....	.....	39	27	45	28	50	39	44	28	45	27	47	32	45	33	44	25	45	33	46	33	40	27	44	27
19...	33	21	.....	.....	31	20	38	23	42	22	40	21	39	19	36	26	33	27	35	24	33	25	34	23	40	26	40	16
20...	40	33	.....	.....	42	27	44	36	61	34	47	37	43	35	48	35	48	31	43	23	44	26	45	23	39	20	33	5
21...	35	22	.....	.....	39	20	38	25	43	24	37	23	36	22	41	32	44	33	51	37	41	35	51	37	47	34	44	20
22...	28	15	.....	.....	29	15	27	17	39	20	28	18	32	18	34	20	40	21	52	25	45	23	46	26	50	33	49	33
23...	33	23	.....	.....	30	22	35	21	38	19	36	22	37	24	35	20	35	22	34	26	35	24	35	26	35	27	36	26
24...	33	27	.....	.....	35	21	30	25	35	22	32	26	35	27	35	27	36	29	38	31	35	30	38	31	36	28	33	16
25...	30	20	.....	.....	30	10	29	23	34	13	32	18	31	20	30	23	30	20	31	17	31	26	31	24	32	25	33	26
26...	43	27	.....	.....	39	27	46	26	49	30	46	29	48	28	43	24	42	21	28	8	37	25	38	17	30	14	32	13
27...	33	29	.....	.....	36	27	33	30	37	31	33	32	38	33	34	28	36	27	34	24	36	28	35	29	31	24	30	19
28...	30	22	.....	.....	30	21	32	25	34	29	32	24	34	24	30	27	31	27	28	19	32	28	33	27	35	25	35	24
29...	30	21	.....	.....	32	18	27	23	32	22	29	19	34	21	27	24	28	23	21	17	30	24	29	20	25	19	26	21
30...	30	23	.....	.....	30	21	30	25	33	24	28	25	31	24	30	24	30	20	22	13	29	21	28	22	28	19	28	18
31...	27	13	.....	.....	27	6	25	22	28	18	25	19	27	18	27	24	29	24	18	− 6	29	23	28	15	20	5	28	0
Mns	30.3	19.8	.....	.....	30.3	16.2	32.0	21.3	34.5	20.5	32.2	20.7	32.5	20.9	32.6	21.4	31.9	20.4	28.9	12.1	32.1	19.6	32.3	17.9	28.2	12.8	28.3	7.5

Climatological Data for January, 1910.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

TEMPERATURE.

The weather was extremely cold from the 1st to the 15th in the extreme northern and from the 3d to the 10th in the central and southern portions of the district, but the latter half of the month was mild for January.

In North Dakota the month opened with the temperature below the normal, and this condition prevailed during the first 15 days. During the first 6 days the temperature was abnormally low, and at most stations, the minimum for the month was recorded on the 3d or 4th. During the latter half of the month the temperature was above the normal, and particularly so on the last 3 days, the maximum for the month occurring generally on the 31st.

The month was considerably warmer than usual in Minnesota, although an unusually cold period extended from the 3d to the 10th.

The average temperature for Wisconsin was 0.5° above the normal, but the small excess is due to the fact that the comparatively high temperature in the northern counties offset the comparatively low temperatures in the southern counties. The greatest excess of temperature was in the northwestern counties, where it amounted to 5.0°. The maximum temperatures for the month were recorded at practically all stations on the 19th or 20th, and were about 40°, while the lowest temperatures were recorded generally on the 7th, and ranged from −20° to −38°. The minimum temperatures were below the freezing point each day at practically all stations during the entire month, and they were below zero continuously from the 3d to the 10th.

The weather was unseasonably cold in Iowa from the 3d to the 10th, but the remainder of the month, with the exception of two or three days, was mild, so that the average temperature for the month was only a little below the normal. The 6th and 7th were the coldest days; the lowest temperature occurring generally on the 6th, when the minimum ranged from −8° to −23° over the southern and from −17° to −35° over the northern counties. There have been 6 colder Januarys during the past 21 years, but the minimum for the State, for the past month, was lower than in any January since 1892, and at a few stations in the northern counties the minimum was lower than it has been in any January for the past 22 years. The 19th and 25th were generally the warmest days, but there were only 2 or 3 days in the month on which the minimum temperature was above the freezing point, even in the extreme southern portion of the State.

January, 1910, was rather unfavorable for building and other outdoor occupations over northeastern Missouri. The mean temperature for the month was above the normal immediately along the Mississippi River, but in the interior it was below the normal. The first 2 or 3 days were moderate, but after the 3d a cold wave spread over the section, and markedly low temperatures prevailed until the 10th; zero temperatures were recorded on several days, and ranged from −2° to −17° on the 6th and 7th. After the 15th the weather moderated somewhat, with several bright and pleasant days during the third and fourth weeks, but the maximum temperature was below 50°, except on a few days.

The deficiency in temperature over that portion of Indiana within this district was chiefly due to the extreme cold weather that prevailed from the 3d to the 10th, the remainder of the month having temperatures somewhat above the normal, which reduced to a large extent the deficiency of the first decade. The coldest day was the 7th, when temperatures from −5° to −15° were recorded throughout the section.

While the mean monthly temperature for Illinois was practically normal, great inequalities occurred. The month opened with moderate winter temperature, which was followed by a severe cold spell of short duration, when the lowest temperatures since February, 1905, were registered in portions of the State. In fact, the low temperatures registered on the 7th, in the northern border counties, almost equaled the record for extreme cold weather. From the 11th to the close of the month the temperature was generally above the seasonal average.

The monthly mean temperature for the district, as shown by the records of 294 stations, was 16.8°, which is 4.4° above the normal. The highest monthly mean was 36.3°, at Cairo, Ill., and the lowest was 2.2°, at Pembina, N. Dak. The highest temperature reported was 67°, at Du Quoin and Mascoutah, Ill., on the 1st; and the lowest was −40°, at Roseau, Minn., on the 4th.

PRECIPITATION.

The average precipitation was slightly above the normal, but there was a deficiency in several localities, especially over North Dakota, northern Minnesota, southeastern Iowa, Illinois, and the central portion of the Missouri section. Over the northern States, nearly all of the precipitation was in the form of snow, and a large proportion was snow over the southern sections.

In North Dakota the average precipitation was only 0.23 inch, or less than one-half of the normal. The month opened with stormy weather, which prevailed during the first six days, and the greater portion of the precipitation occurred during that period.

In the extreme northwestern counties of Minnesota the average precipitation was about 0.10 inch, but over the southern counties it ranged from 1.50 to 2.50 inches, which is considerably above the normal. More or less general storms occurred on the 5th, 17th, 20th, and 26th. The snowfall ranged from 1 to 15 inches, and the ground was covered with snow throughout the month from 5 to 20 inches in depth.

There was a slight excess of precipitation over Wisconsin, and all of it fell in the form of snow. It was fairly well distributed throughout the month, except in the southern counties, where most of the snow fell during the first half of the month. There were heavy snowstorms on the 4th, 5th, and on the 13th and 14th, which caused considerable delay in traffic in the southern counties, but very little inconvenience resulted in the northern portion of the State. The ground was covered with snow during the entire month.

In Iowa the precipitation was above the normal, except over the southeastern counties, where there was a slight deficiency. Most of it fell in the form of snow during two storms; the first of which occurred on the 4th and 5th, and the second on the 12th and 13th. The fall of snow during these two storms was unusually heavy and caused much delay in railroad traffic, which, together with the severe cold weather during the early part of the month, came very near causing a fuel famine in this and some of the adjacent States. The accumulation of snow also did considerable damage to buildings, especially in the northern part of the State. The roofs of numerous structures collapsed as a result of the weight of snow causing damage estimated at about $10,000 in the city of Dubuque. Snow flurries occurred at frequent intervals during the latter half of the month, but the amounts of snow were small and only tended to prolong the good sleighing which began on December 5 or 6, 1909.

In Missouri the total precipitation for the month ranged from about 1 to over 2 inches; there being an excess in the southern and extreme northern portions, and a slight deficiency over the central part of the State within District No. 5. The total snowfall ranged from 2 to 7 inches.

There was a deficiency in Indiana near the headwaters of the Iroquois and Kankakee rivers, and an excess at lower points in their courses. Rain or snow occurred at frequent intervals during the month, the proportion which fell as snow being near the average amount for January. The ground was covered during the whole month, affording good sleighing in most localities.

In Illinois the precipitation was mostly in the form of snow or sleet, the latter being general, and in most cases heavy, on the 4th and 5th. In the northern counties the ground has been covered with snow and ice since December 5, 1909, and at the end of January the covering was practically a solid layer of ice averaging about 4 inches in thickness. The snows at times caused a suspension of traffic on the railroads in the northern portion of the State, and the imminence of a coal famine was before many cities and towns for quite a while.

The average precipitation for the district, as shown by the records of 308 stations, was 1.38 inch, which is 0.16 inch above the normal. The greatest amount, 3.36 inches, occurred at Lacona, Iowa, and none occurred at Cando, Langdon, and Pembina, N. Dak. The greatest amount in 24 hours, 1.96 inch, occurred at Steffenville, Mo., on the 12th. Measurable precipitation occurred on an average of 6 days. The average depth of unmelted snowfall for the district was 10.0 inches; the greatest depth was 29.0 inches, at Muscoda, Wis., and none fell at Cando, Langdon, and Pembina, N. Dak.

Sunshine and cloudiness.—The average number of clear days was 11; partly cloudy, 8; and cloudy, 12. The duration of sunshine was below the normal.

Wind.—Northwest winds prevailed. The average hourly wind velocity, as shown by the records of 14 regular Weather Bureau stations in the district, was 8.6 miles; the maximum velocity of the wind was 48 miles per hour, from the northwest, at Devils Lake, N. Dak., on the 1st; and from the southwest, at Cairo, Ill., on the 26th.

The rivers in the northern and central portions of the district were frozen during the entire month, and ice gorges interfered with navigation in the southern portions. The Illinois River was above the flood stage during most of the latter part of the month. At La Salle, Ill., the river was frozen until the 18th, when the reading was 18.8 feet, or 0.8 feet above the flood stage. The river remained above the flood stage during the rest of the month, but no damage resulted as the rise was gradual, and the ice was intact at the end of the month. At Peoria flood stage was reached on the 20th, and it continued above flood the remainder of the month. The highest stage was 16.7 feet on the 29th, 30th, and 31st. (Flood stage is 14.0 feet.) At Beardstown the river was above the flood stage from the 7th to the 9th, and from the 15th until the end of the month. The highest stage was 14.1 feet, or 2.1 feet above flood stage.

The Mississippi at St. Louis, Mo., averaged 18.3 feet for the month, which is the highest average ever recorded for January. Most of the excess was the result of an ice pack below the city. This pack formed during the last week in December and continued until January 14 when a general breakup occurred. At 1:00 a. m. on January 14 the St. Louis gage registered 31.9 feet. The gorge backed the water up as far as Grafton, Ill., the highest water at that place being 13.4 feet on the 14th, but no reports have been received of any damage above the mouth of the Missouri River. The river was frozen at Keokuk, Iowa, and at Hannibal, Mo., except an open stretch below the bridge.

The breaking of the ice gorge between St. Louis, Mo., and Chester, Ill., on the 14th, caused considerable damage as the ice passed away, but no flood stage occurred at Cairo, Ill., although there was a sharp rise.

DRAINAGE AND CONSERVATION NOTES.

The construction of a drainage ditch, to cost $101,561, has been authorized by the boards of Winnebago and Kossuth counties in Iowa. The ditch will be on the line between the two counties and in one of the big drainage districts in that part of the State.

Surveys have been made for the construction of a large dam on the Cedar River, near Vinton, Iowa, to develop water power. The proposed dam will cost $450,000.

The army engineers who made the preliminary inspection of the Des Moines River to decide whether or not it was possible to make the river navigable have rendered a favorable report to the Secretary of War, and it is expected that the survey of the river will begin as soon as weather conditions will permit.

HYDROELECTRIC DEVELOPMENT.

The Keokuk and Hamilton Water Power Company began work on January 10, 1910, to develop the power of the Des Moines Rapids of the Mississippi River at Keokuk, Iowa, and Hamilton, Ill.

The developing works will consist of a dam built across the river at the foot of the rapids, and a power house immediately below the dam and parallel with the stream on the Keokuk side.

The dam, including abutments, will be 4,700 feet long, or seven-eighths of a mile. The spillway section will be 4,400 feet in length. The height will be 37 feet above the river bed and its base 43 feet wide. The upstream face will be vertical. The downstream face will be an ogee curve, the upper portion a parabola over which the water will spill, the lower portion an arc of a circle which will throw the water horizontally away from the toe of the dam.

On top of the spillway will be placed 116 steel flood gates, 30 feet wide and 11 feet high, supported by concrete piers. These piers will be 8 feet thick and 29 feet wide. They will be built integral with the dam, being carried down to bed rock on the upstream side. The piers also support an arched bridge from which the gates will be operated by electric hoists. By manipulating these gates the water above the dam will be maintained at a constant level at all seasons.

The dam will be built entirely of massive concrete without reinforcement of any kind. It will be locked firmly into the rock bed of the river and will be practically a monolith.

The construction of the dam will entirely drown out and destroy the Des Moines Rapids Canal with its three locks. In place of these will be built a single large lock on the site of the present lower lock. This lock will be both wider and longer than the present lock. As the number of lockages will be reduced from three to one, and in place of the canal will be substituted a lake of deep water over a mile wide and 40 miles long, it will be seen that the work will result in a great improvement to navigation.

In connection with the lock will be built a large drydock for the construction and repair of floating craft.

The operating head will vary from 35 to 21 feet. There will be developed and for sale 200,000 horsepower. The machinery will be capable of developing 250,000 horsepower.

The first long distance transmission line will be run to St. Louis, and the first power will be sold there and in Keokuk. As the power market develops transmission lines will be run in other directions radiating from Keokuk.

It is expected that the initial installation of 100,000 horsepower will be completed in 2½ years.

TABLE 1.—*Climatological data for January, 1910. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																			
Amenia	Cass	954	12	8.0	+ 1.6	46	19	−22	4	55	0.40	− 0.10	0.20	4.0	2	8	10	13	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	14	5.0	+ 4.8	34	31	−28	3	33	0.40	− 0.09	0.20	.....	3	16	9	12	nw.	J. A. Kemp.
Cando	Towner	1,488	8	6.8[b]	+ 7.8	40[m]	20†	−34†	4	40[m]	0.00	− 0.46	0.00	0.0	0	.....	.....	.....	.....	E. T. Judd.
Crosby	Williams	.....	3	10.2	.....	38	31	−30	3	42	0.20	.....	0.11	4.0	4	19	5	7	sw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	4	8.6	+ 8.3	38	19	−26	3	33	0.10	− 0.50	0.09	1.0	3	7	11	13	w.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	10	12.0	+10.1	48	25	−31	3	39	0.20	− 0.24	0.10	2.0	3	20	3	8	nw.	C. J. De Vore.
Dunseith	Rolette	.....	12	5.8	+ 3.9	38	22†	−27	3	33	T.	− 0.47	T.	T.	0	25	2	4	w.	L. H. Trowbridge.
Edmore	Ramsey	1,524	4	9.2	.....	35	31	−20	6	35	T.	.....	T.	T.	0	13	15	3	nw.	H. R. Aslakson.
Forman	Sargent	1,249	15	12.0	+ 4.5	40	1	−30	4	40	0.50	− 0.10	0.30	5.0	3	7	7	17	nw.	A. Maltby.
Grafton	Walsh	827	12	8.8	+ 7.4	37	31	−27	4	31	0.28	− 0.32	0.19	2.8	2	7	9	15	n.	H. La Moure.
Granville	McHenry	1,504	3	6.8	.....	39	31	−31	3†	46	0.12	.....	0.08	1.5	2	.....	.....	.....	.....	W. A. Christiansen.
Hannah	Cavalier	1,568	4	8.5	.....	38	31	−31	4	36	1.80	.....	1.10	18.0	2	20	5	6	nw.	J. Moffatt.
Hansboro	Towner	.....	2	8.6	.....	36	31	−29	4	40	0.09	.....	0.05	0.6	2	10	8	13	nw.	Geo. Dale.
Hillsboro	Traill	901	4	10.8	.....	41	31	−23	4	35	0.16	.....	0.10	1.6	3	8	15	8	s.	M. H. Norman.
Lakota	Nelson	1,519	3	7.8[a]	.....	36[a]	31	−29[a]	4	29[a]	0.37	.....	0.20	2.5	5	.....	.....	.....	nw.	C. R. Pettes.
Langdon	Cavalier	1,615	14	6.9	.....	35	31	−26	4	34	C.00	.....	0.00	C.0	0	17	4	10	w.	J. Woolner.
Larimore	Grand Forks	1,134	14	.....	.....	.....	.....	.....	.....	.....	0.20	− 0.08	.....	2.0	.....	.....	.....	.....	.....	S. R. Britton.
Lisbon	Ransom	1,091	5	6.7	.....	37	20†	−32	4	37	0.60	.....	0.30	6.0	3	18	5	8	nw.	H. K. Adams.
McKinney	Ward	1,640	15	8.2	+ 4.7	39	1	−33	3	54	0.20	− 0.13	0.10	2.0	2	7	21	3	nw.	N. P. Swenson.
Manfred	Wells	1,605	8	9.3	.....	40	31	−30	3	43	0.20	.....	C.10	2.0	2	11	17	3	nw.	P. B. Anderson.
Mayville	Traill	975	14	11.0	+ 2.8	41	31	−23	4	35	0.03	− 0.26	0.02	0.3	2	13	7	11	n.	M. N. Pope
Minot	Ward	1,557	11	11.0[a]	+ 4.7	43[a]	31	−29[a]	3	46[a]	0.05	− 0.35	0.05	0.5	1	23	2	6	w.	J. J. Bates.
Minto	Walsh	820	16	8.7	+ 6.8	38	31	−24	3†	36	0.16	− 0.36	0.03	.....	7	.....	.....	.....	.....	S. S. Marsh.
Oriska	Barnes	1,270	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Williams.
Park River	Walsh	998	6	8.8	.....	38	31	−28	4	45	T.	.....	T.	T.	0	.....	.....	.....	.....	A. Heyward.
Pembina	Pembina	789	11	2.2	+ 1.8	36	31	−35	3	32	0.00	− 0.79	0.00	C.0	0	11	10	10	w.	C. W. Shumaker.
Portal	Ward	1,954	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. S. Davis.
Power	Richland	1,020	17	6.9[b]	+ 1.7	40[b]	22	−32[b]	4	42[b]	0.60	+ 0.06	0.20	6.0	4	9	13	9	nw.	J. A. Power.
Pratt	McHenry	.....	5	6.8	.....	35	1†	−34	3	51	T.	.....	T.	T.	0	22	1	8	nw.	C. H. Butts.
University	Grand Forks	830	18	8.1	+ 3.6	38	31	−28	7†	41	C.20	− 0.34	C.C5	2.0	4	7	7	17	nw.	W. R. Holgate.
Wahpeton	Richland	962	18	8.2	− 0.3	35	19	−25	6	29	T.	− 0.40	T.	T.	0	9	8	14	nw.	E. G. Burch.
Walhalla	Pembina	966	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Lee.
Westhope	Bottineau	.....	3	6.3	.....	35	1†	−32	3	41	0.10	.....	0.03	.....	4	18	7	6	w.	J. D. Currie.
Willow City	....do	1,471	16	9.2[b]	+ 8.1	35	19	−15	3	19	0.05	− 0.34	0.05	0.5	1	13	6	12	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,239	20	11.9	− 1.1	33	17†	−23	9	30	2.00	+ 1.16	0.80	20.0	6	8	9	14	nw.	Edward Carey.
Alexandria	Douglas	1,391	16	10.7	+ 3.2	37	19	−26	4†	37	0.47	− 0.21	0.20	8.2	7	12	4	15	nw.	P. O. Unumb.
Angus	Polk	870	8	7.8	.....	36	19	−25	3†	37	0.10	.....	0.10	1.0	1	10	11	10	s.	John Nadvornik.
Bagley	Clearwater	.....	4	7.1	.....	33	1†	−26	3	42	0.26	.....	0.26	2.0	1	14	10	7	w.	Jens Nelson.
Baudette	Beltrami	1,084	1	7.6	.....	36	19	−36	4	40	0.16	.....	0.14	2.2	2	16	5	10	nw.	Franz W. Schmidt.
Beardsley	Bigstone	1,090	17	14.4[c]	+ 4.0	43[c]	19	−22[c]	3†	37[c]	.....	.....	.....	.....	.....	7[c]	8[c]	11[c]	nw.[c]	Roy A. Smith.
Beaulieu	Mahnomen	1,200	8	10.6	.....	35	1	−29	4	37	0.15	.....	0.15	2.0	1	12	11	8	sw.	Dr. L. A. Parkinson.
Bird Island	Renville	1,039	20	13.2	+ 2.8	37	19	−22	6	30	0.47	− 0.16	0.21	4.7	7	9	5	17	nw.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	17	14.4[a]	− 1.1	39[a]	19	−15[a]	4†	36[a]	.....	.....	.....	.....	.....	9[a]	15[a]	6[a]	nw.	W. D. Belden.
Campbell	Wilkin	984	.....	10.5	.....	40	19	−26	4	44	0.90	.....	0.40	9.0	4	5	6	20	nw.	J. T. Neiseess.
Cass Lake	Cass	1,300	4	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.25	2.5	1	.....	.....	.....	.....	C. W. Burns.
Collegeville	Stearns	1,282	17	15.1	+ 1.6	40	19	−21	4	28	0.69	+ 0.[illegible]	0.32	4.8	4	16	4	11	nw.	Fridolin Tembreul.
Crookston	Polk	863	20	9.1	+ 6.0	34	31	−22	4	37	C.12	− 0.50	0.10	1.2	2	16	3	12	s.	A. G. Andersen.
Detroit	Becker	1,364	14	6.0	.....	40	19	−36	6	41	0.49	− 0.13	0.20	5.0	3	16	4	11	sw.	George W. Peoples.
Fairmont (near)	Martin	1,240	23	13.8	+ 1.1	36	19†	−20	6	29	2.50	+ 1.68	1.40	23.2	4	10	12	9	nw.	W. F. Wherland.
Faribault	Rice	1,003	13	12.0	− 2.7	35	1†	−25	6	31	0.50	− 0.08	0.17	12.5	7	14	6	11	nw.	Dr. A. R. T. Wylie.
Farmington	Dakota	902	22	13.2	+ 0.4	35	17†	−21	6	29	0.85	− 0.08	0.30	8.0	6	11	8	12	nw.	D. F. Akin.
Fergus Falls	Ottertail	1,210	18	13.2	+ 4.4	34	19	−24	4	31	0.92	+ 0.28	C.27	9.2	13	10	13	8	nw.	Chas. E. Kissenger.
Fort Ripley	Crow Wing	1,136	4	9.5	.....	40	19	−34	6	42	0.50	− 0.08	0.25	7.6	5	16	3	12	s.	J. J. Tucker.
Fosston	Polk	1,289	1	9.8	.....	34	19	−30	3	35	0.31	.....	0.24	.....	3	12	11	8	nw.	O. N. Hem.
Glencoe	McLeod	1,000	14	14.0	− 0.1	36	19†	−24	6†	29	1.52	+ 0.95	0.60	15.2	5	13	13	5	nw.	C. G. Selvig.
Grand Meadow	Mower	1,338	25	13.4	+ 1.2	39	19	−20	4†	34	2.17	+ 1.28	1.12	24.0	6	14	10	7	nw.	C. F. Greening.
Hallock	Kittson	815	11	5.2	+ 6.2	36	31	−32	4	37	0.10	− 0.49	C.10	1.0	1	19	2	10	s.	D. A. Robertson.
Halstad	Norman	870	4	7.6	.....	32	19	−26	4	42	0.00	.....	0.00	1.0	1	16	10	5	nw.	Aaron G. Holstrom.
Hinckley	Pine	1,050	5	13.9	.....	33	19	−21	4†	36	0.50	.....	0.30	5.0	4	3	13	15	s.	W. R. Newman.
International Falls	Koochiching	1,112	2	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.40	.....	2	14	9	8	w.	Rees Roe.
Kelliher	Beltrami	.....	3	11.8	.....	40	19	−31	4	40	0.20	.....	0.20	2.0	1	7	16	8	sw.	A. Gilmour.
Lake Crystal	Blue Earth	.....	3	12.6	.....	37	20	−24	6	32	1.77	.....	0.65	18.3	6	12	6	13	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	22	9.8	+ 5.3	39	19	−28	4	39	0.45	− 0.32	0.28	5.2	4	2	19	10	w.	Hans Olson.
Little Falls	Morrison	1,117	4	12.8	.....	38	19	−22	4	34	1.10	.....	0.60	11.0	2	7	16	8	se.	Maurice Coleman.
Little Fork	Koochiching	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. C. Olson.
Long Prairie	Todd	1,299	18	12.6	+ 3.5	42	19	−30	3	37	1.00	+ 0.39	0.80	10.0	2	13	7	11	s.	R. M. Sheets.
Lynd (2)	Lyon	1,175	18	14.6[a]	+ 0.5	43	31	−28[a]	4	35[a]	1.22	+ 0.65	1.07	16.5	4	14	7	10	sw.	J. W. Rouse.
Mankato	Blue Earth	747	11	.....	.....	.....	.....	.....	.....	.....	0.96	− 0.06	0.40	13.0	3	8	6	17	sw.	Sadie H. Blake.
Mapleplain	Hennepin	1,023	18	13.6	+ 1.9	38	19	−22	4†	35	1.44	+ 0.34	C.55	15.3	10	8	10	13	nw.	G. W. Richards.
Milaca	Millelacs	1,072	13	11.5	+ 1.5	39	19	−24	4	39	0.51	+ 0.06	.....	.....	.....	10	12	9	nw.	C. H. Foss.
Milan	Chippewa	955	16	11.8	+ 1.3	38	19	−30	6	37	1.25	+ 0.20	0.80	12.5	4	3	24	4	se.	O. K. Opjorden.
Minneapolis	Hennepin	918	19	15.4	+ 1.1	39	19	−18	4	29	1.08	+ 0.39	0.39	14.1	8	7	13	11	s.	U. S. Weather Bureau.
Montevideo	Chippewa	900	23	13.6	+ 2.6	43	18	−22	4†	45	0.84	+ 0.20	0.36	9.9	5	6	14	11	nw.	Lloyd G. Moyer.
Moorhead	Clay	935	29	9.8	+ 7.1	36	19	−25	4	35	0.52	+ 0.19	0.22	5.9	7	11	10	10	nw.	U. S. Weather Bureau.
Mora	Kanabec	.....	5	11.6	.....	41	19	−30	9	43	0.99	.....	0.36	10.0	6	16	5	10	w.	Hans Peterson.
Morris	Stevens	1,170	25	12.0	+ 4.2	36	19	−24	4	28	0.72	+ 0.25	0.40	7.5	6	12	10	9	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	16	11.5	+ 2.0	40	19	−29	6	37	0.68	+ 0.08	0.38	7.3	4	5	19	7	nw.	Harold Swenson.
New Richland	Waseca	1,180	16	13.6	− 1.1	35	19	−21	6	30	1.40	.....	0.83	20.0	7	13	8	10	nw.	N. O. Tyrholm.
New Ulm	Brown	791	30	14.4[a]	− 1.4	41	31	−19[a]	6†	44[a]	2.60	+ 1.66	0.80	26.0	8	5	0	26	nw.	Andrew J. Eckstein.
Osakis	Douglas	1,343	3	11.6	.....	35	19	−36	6	35	0.81	.....	0.30	13.0	7	11	5	15	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	20	9.4	+ 5.9	40	19	−26	4†	37	0.60	− 0.22	0.25	5.8	7	10	17	4	s.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	23	9.1	+ 3.7	40	19	−30	4†	40	0.25	− 0.49	0.16	7.0	2	11	16	4	nw.	Neil McKay.
Pokegama Falls	Itasca	1,280	23	9.6	+ 5.7	40	19	−31	4	43	0.32	− 0.51	0.26	2.9	3	10	13	8	sw.	Arthur L. Mampel.
Red Lake	Beltrami	1,152	2	10.0	.....	40	19	−33	4	38	0.18	.....	0.18	2.0	1	9	15	7	w.	A. C. Goddard.
Red Wing	Goodhue	680	14	.....	.....	.....	.....	.....	.....	.....	0.93	− 0.35	0.54	11.7	9	12	1	18	nw.	Louis Bach.
Redwood Falls	Redwood	1,050	3	14.6	.....	38	19	−20	4†	31	1.65	+ 0.88	0.60	16.5	8	13	7	11	nw.	N. B. Anderson.
Reeds Landing	Wabasha	681	15	.....	.....	.....	.....	.....	.....	.....	0.86	+ 0.34	0.35	17.2	7	4	4	23	nw.	John Deschneau.
Rochester	Olmsted	991	6	11.6	.....	41	19	−26	7	45	1.65	.....	0.70	23.0	4	11	5	15	s.	S. R. Case.
Roseau	Roseau	1,040	3	7.8	.....	37	31	−40	4	38	T.	.....	T.	T.	0	23	6	2	s.	A. Waag.
St. Charles	Winona	850	19	11.4	− 2.5	42	19	−23	7	47	1.10	− 0.08	0.48	14.0	6	11	8	12	se.	S. W. Gleason.
St. Cloud	Sherburne	1,020	32	13.3	+ 3.6	40	19	−22	4	38	0.65	− 0.10	0.17	6.5	5	15	5	11	nw.	Jos. H. Capser.
St. Paul	Ramsey	837	39	14.4	+ 2.8	38	19	−17	6	30	1.10	+ 0.20	0.44	12.4	8	7	10	14	nw.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	14.6	− 1.7	39	18	−30	6	35	1.36	+ 0.73	0.46	13.9	5	24	1	6	nw.	Chas. C. Cavanaugh.
Sandy Lake Dam	Aitkin	1,234	17	10.6	+ 3.6	35	19	−24	4	37	1.40	+ 0.51	0.49	8.1	6	2	15	14	se.	U. S. Engineer Corps.
State Sanatorium	Cass	.....	3	12.0	.....	40	19	−24	4	31	0.46	.....	0.27	5.5	3	10	8	13	nw.	Walter J. Marcley.
Stillwater	Washington	694	5	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.42	13.7	4	12	10	9	nw.	Oscar Ostrom.

TABLE 1.—*Climatological data for January, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Cont'd.																				
Taylors Falls	Chisago	759	3	14.0	.....	38	19	−32	6	37	0.62	.....	0.32	8.2	5	15	5	11	n.	Mpls. Gen. Elec. Co.
Warroad	Roseau	1,069	1	7.0	.....	36	19	−39	4	45	0.08	.....	0.08	2.0	1	17	2	12	s.	John H. Sawyer.
West Concord	Dodge	1,232	1	12.6	.....	36	19	−24	6	29	1.30	.....	0.60	13.0	5	10	13	8	nw.	H. H. Orcutt.
Willow River	Pine	1,046	12	10.6[b]	+ 0.4	32[b]	16†	−29[b]	8	32[b]	.....	.....	.....	.....	.....	26	3	2	n.	J. A. Brandt.
Windom	Cottonwood	1,336	4	14.5	.....	42	19	−25	9	43	1.21	.....	0.70	12.0	3	10	10	11	nw.	Taber C. Richmond.
Winnebago	Faribault	1,100	11	.....	.....	.....	.....	−21	9	.....	1.70	+ 0.98	0.65	20.0	5	7	9	15	nw.	H. H. Haight.
Winnibigoshish	Itasca	1,300	22	11.7	+ 6.2	41	19	−26	4	36	0.42	− 0.34	0.27	4.5	5	16	7	8	s.	John Duncan.
Winona	Winona	700	15	15.2	+ 3.2	42	20	−23	7	38	1.07	− 0.10	0.40	14.7	5	15	8	8	nw.	Perry C. Myers.
Worthington	Nobles	979	15	12.6	− 2.4	36	19	−21	6†	36	0.75	+ 0.17	0.60	10.5	3	11	3	17	n.	W. I. Carpenter
Zumbrota	Goodhue	917	15	13.8	− 1.6	38	19	−22	9	35	0.87	.....	0.57	10.0	2	14	7	10	nw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	18	13.0[a]	+ 0.3	43	31	−20[a]	4	42[a]	0.80	+ 0.24	0.48	6.3	5	10	4	17	nw.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	16	14.8	+ 2.0	40	15	−22	7	36	0.56	.....	0.36	5.8	5	18	4	9	w.	Elton C. Larsclere.
Barron	Barron	1,115	18	11.6	+ 2.5	36	17	−25	4†	37	1.19	− 0.08	0.80	11.5	6	12	12	7	sw.	Wm. A. Kent.
Beloit	Rock	750	23	18.8	+ 0.2	40	1	−22	7	37	1.97	+ 0.05	1.10	.....	7	10	1	20	w.	Smith Observatory.
Brodhead	Green	812	12	16.8	− 3.5	38	1†	−33	7	49	2.90	+ 1.65	0.90	26.5	8	12	10	9	nw.	Hecktore D. Kirkpatrick.
Burnett	Dodge	880	6	14.4	.....	37	20	−30	7	35	1.86	.....	1.00	17.0	8	8	9	14	sw.	Geo. W. Smith.
Delavan	Walworth	920	17	17.8	− 0.8	40	20	−24	7	42	1.19	− 0.44	0.50	9.8	7	9	4	18	nw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11	.....	.....	.....	.....	.....	.....	.....	3.03	+ 2.20	1.02	24.2	6	11	3	17	nw.	Geo. W. Butler
Downing	Dunn	983	8	11.9	+ 3.1	38	19	−30	7	41	2.00	+ 0.19	0.80	20.0	5	4	6	21	w.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	19	14.4	+ 1.8	36	25	−20	9	36	1.08	− 0.57	0.43	11.2	7	10	11	10	nw.	Robert D. Whitford
Ellsworth	Pierce	1,068	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry G. Wood.
Glidden	Ashland	1,519	18	.....	.....	.....	.....	.....	.....	.....	1.10	− 0.03	0.50	11.0	5	11	3	17	s.	George Sell.
Grand Rapids	Wood	1,021	11	14.7	+ 2.6	41	19	−25	7	38	1.30	+ 0.13	1.05	9.5	3	16	2	13	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	19	11.2	+ 1.0	40	19	−31	6	46	1.60	+ 0.44	0.80	16.0	5	11	6	14	sw.	Theodore Olsen.
Hancock	Waushara	1,091	18	13.8	− 0.6	38	20	−23	7	44	1.40	+ 0.25	0.60	14.0	3	13	5	13	w.	Frederick B. Hamilton.
Hatfield	Jackson	973	15	11.6[d]	.....	36[d]	19	−34[d]	7	48[d]	0.72	.....	.....	5.5	6	6[d]	7[d]	14[d]	s.[d]	Walter S. Woods.
Hayward	Sawyer	1,197	19	9.8	− 0.2	35	19	−27	8†	44	0.75	− 0.42	0.50	9.5	4	6	8	17	s.	William E. Swain.
Hillsboro	Vernon	1,000	19	12.6	− 2.3	40	19	−38	7	49	1.50	+ 0.11	0.60	15.0	4	14	14	3	e.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	13.1	+ 0.6	40	18†	−26	7	40	1.20	− 0.19	0.60	12.0	4	0	25	6	nw.	Edward S. Koepenick.
La Crosse	La Crosse	714	38	15.9	+ 0.7	41	19	−21	7	32	1.33	+ 0.25	0.57	17.5	8	8	5	18	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	19	17.2	− 0.9	47	1	−22	7	30	2.22	+ 0.70	0.60	21.2	16	6	13	12	w.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	16.8	+ 2.2	41	19†	−23	7	35	1.62	+ 0.44	0.75	20.0	5	6	13	12	w.	Edward Pollock.
Long Lake	Oneida	1,592	2	11.8	.....	38	19	−27	9	48	0.71	.....	0.33	8.0	8	6	7	18	w.	Louie Frank.
Madison	Dane	974	32	17.1	+ 0.6	39	20	−18	7	36	2.82	+ 1.26	1.21	28.2	9	8	6	17	nw.	U. S. Weather Bureau.
Mather	Juneau	962	6	11.8	.....	42	19	−27	7	48	1.30	.....	0.60	13.0	3	10	8	13	w.	Frank Evans.
Mauston	...do	882	14	15.1	− 0.6	42	20	−26	7	49	1.00	− 0.02	0.70	11.5	2	12	11	8	sw.	Eugene L. Hitchcock.
Meadow Valley	...do	974	19	13.7	+ 0.6	39	19	−35	7	46	0.68	− 0.19	0.20	12.0	6	8	12	11	nw.	Charles H. Johnson.
Medford	Taylor	1,420	19	14.6	+ 2.3	36	1	−23	7	37	1.65	+ 0.05	0.35	10.5	5	9	8	14	s.	William Zeit.
Merrill	Lincoln	1,267	4	16.0	.....	49	1	−28	7	52	0.67	.....	0.30	9.8	7	21	4	6	sw.	Frank M. McElroy.
Minocqua	Vilas	1,604	6	13.2	.....	41	19	−27	9	45	0.66	.....	0.30	6.0	3	11	3	17	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	2	13.4	.....	44	19	−31	7	44	0.95	.....	0.20	9.8	8	14	9	8	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	6	16.8	.....	37	20†	−23	6	31	1.63	.....	0.60	13.0	6	6	10	15	nw.	W. M. Lewis.
Muscoda	Grant	666	1	15.3	.....	42	19	−34	7	48	2.31	.....	1.00	29.0	5	10	9	12	sw.	Henry Eckstein.
Neillsville	Clark	996	21	14.3[c]	+ 0.7	39[c]	19	−30[c]	7	45[c]	0.98	− 0.21	0.50	10.0	3	10	9	12	nw.	William Headlett.
New Richmond	St. Croix	990	5	12.9	.....	39	20	−24	4†	42	1.30	.....	0.67	13.0	4	10	13	8	nw.	Franc A. R. Van Meter.
Osceola	Polk	806	19	14.4	+ 5.0	38	19	−37	6	53	0.75	− 0.27	0.30	11.0	4	16	5	10	w.	Charles W. Staples.
Portage	Columbia	809	14	16.0	− 2.3	39	1†	−32	7	41	0.87	− 0.36	0.60	19.0	4	13	9	9	nw.	James Clear.
Prairie du Chien	Crawford	690	23	15.6	− 2.2	46	19	−28	7	46	1.71	+ 0.38	0.84	22.5	5	6	12	13	s.	Jas. A. Gillis.
Prentice	Price	1,551	12	10.8	+ 0.5	33	1	−30	7	45	C.96	− 0.46	0.40	8.8	5	7	1	23	s.	Joseph G. Lash.
Rhinelander	Oneida	1,550	4	13.8	.....	38	19	−23	7	39	0.48	.....	0.20	9.9	6	8	9	14	nw.	John Lind.
Sauk City	Sauk	758	2	17.7[c]	.....	40[c]	20	−31[c]	7†	37[c]	1.85	.....	1.00	18.5	3	6	7	18	.....	Kilien Derleth.
Shullsburg	Lafayette	1,019	4	16.0	.....	37	19	−23	7	34	2.63	.....	1.02	27.5	5	13	3	15	w.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	4	9.8	.....	35	19	−28	6†	42	1.40	.....	0.80	14.0	3	11	3	17	sw.	John M. Sayles.
Spooner	Washburn	1,104	15	12.1	+ 1.6	34	17†	−21	4	31	0.58	− 0.46	0.41	8.8	4	17	3	11	w.	Horace A. Bresse.
Stanley	Chippewa	1,082	6	14.0	.....	37	19	−24	7	40	1.27	.....	0.46	11.0	8	9	8	14	sc.	W. Humphrey Scott.
Stevens Point	Portage	1,113	17	14.4	− 0.1	37	20	−26	7	43	1.57	+ 0.57	0.75	17.1	8	8	4	19	nw.	Garry E. Culver.
Valley Junction	Monroe	930	18	14.6	+ 0.9	40	19	−25	7	41	1.32	+ 0.32	0.40	13.2	10	11	6	14	nw.	Frederick Muermann.
Viroqua	Vernon	1,412	19	16.2	+ 1.1	42	19	−21	6	35	1.10	− 0.05	0.45	14.0	7	10	6	15	nw.	Henry E. Rogers.
Vudesare	Vilas	1,600	2	11.0	.....	36	1	−21	9	38	1.06	.....	0.24	11.5	7	9	9	13	w.	Louis L. Thomas.
Watertown	Jefferson	824	19	15.4	− 2.4	38	20	−26	7	38	2.42	+ 0.75	0.70	23.8	11	6	9	16	sw.	Charles J. Salick.
Waukesha	Waukesha	864	14	18.6	− 6.2	40	20	−21	7	34	2.37	+ 0.99	1.10	23.8	7	4	19	8	nw.	Carroll College.
Wausau	Marathon	1,212	17	16.3	+ 3.3	46	1	−20	7	56	0.75	− 0.59	0.32	13.0	5	8	14	9	s.	George H. Halder.
Weyerhaeuser	Rusk	1,297	3	11.2	.....	35	1†	−26	8	40	0.97	.....	0.38	10.0	5	10	8	13	nw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	18	13.1	− 0.2	38	20	−33	7	43	0.90	+ 0.04	0.30	9.0	4	6	20	5	w.	Henry A. Towner.
Iowa.																				
Albia‖	Monroe	950	12	20.4	− 3.3	47	19	−19	6†	41	1.48	+ 0.06	0.63	6.0	3	11	16	4	sw.	J. I. Chenoweth.
Algona‖	Kossuth	1,213	36	14.4	+ 1.1	38	19	−22	6	34	1.33	+ 0.54	0.60	16.0	7	18	3	10	nw.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	19	14.8	− 1.6	40	19	−18	6	38	1.36	+ 0.72	.....	14.0	10	12	6	13	nw.	David E. Hadden.
Amana	Iowa	721	34	18.3	+ 2.0	42	19	−26	7	39	1.99	+ 0.52	0.64	9.3	7	11	9	11	nw.	C. Schadt.
Ames	Story	926	34	17.2	− 0.3	42	19	−23	6†	45	1.30	+ 0.38	0.60	8.0	4	15	2	14	n.	Iowa State College.
Baxter‖	Jasper	998	10	18.6	− 1.7	49	19	−21	6	37	1.41	+ 0.53	0.55	12.6	9	16	4	11	nw.	W. R. Vandike.
Belleplaine	Benton	828	20	18.2	0.0	45	19	−21	6†	37	2.45	+ 0.68	0.60	21.0	9	9	6	16	nw.	S. P. Van Dike.
Belmond	Wright	.....	.....	13.7	.....	37	19†	−25	6	35	1.51	.....	0.45	14.2	16	1	18	12	nw.	Geo. P. Hardwick.
Bloomfield‖	Davis	.....	3	24.6[a]	.....	52[a]	19	−18[a]	6†	42[a]	1.29	.....	0.55	12.0	5	7	17	7	nw.	C. R. Davis.
Bonaparte‖	Van Buren	.....	19	23.0	− 0.2	46	19	−17	6	37	1.84	− 0.14	0.75	5.0	3	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	5	17.0	.....	45	19	−16	6†	35	1.79	.....	0.92	3.0	4	15	3	13	nw.	Carl Fritz Henning.
Britt‖	Hancock	1,236	13	12.8	− 3.2	36	19†	−26	6	31	0.77	+ 0.09	0.34	11.3	4	13	7	11	s.	L. M. Goodman.
Buckingham	Tama	.....	10	.....	.....	.....	.....	.....	.....	.....	0.86	− 0.20	0.40	.....	4	9	13	9	.....	W. A. Daniel.
Burlington	Des Moines	544	14	22.4	− 4.6	45	11†	−11	6	40	1.61	− 0.37	0.63	6.1	8	12	4	15	sw.	Max E. Poppe, *jr.*
Carroll	Carroll	1,265	20	17.9	− 1.1	44	31	−19	5	36	0.75	− 0.06	0.45	5.0	2	10	6	15	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	28	16.2	− 2.0	45	19	−27	7	54	1.35	− 0.07	0.50	11.2	6	15	1	15	nw.	W. J. Greene.
Charles City	Floyd	1,015	19	11.8	+ 0.4	41	19	−32	6	36	1.75	+ 0.78	0.88	26.2	7	5	7	19	nw.	U. S. Weather Bureau.
Clear Lake‖	Cerro Gordo	1,241	13	13.7	− 2.9	38	20	−26	6	36	0.65	+ 0.08	0.40	7.5	4	12	6	13	nw.	Oscar Stevens
Clinton	Clinton	593	43	20.5	+ 0.8	40	19†	−20	7	39	2.51	+ 0.59	1.20	15.5	8	9	6	16	w.	Luke Roberts.
Columbus Junction‖	Louisa	595	9	22.8	− 0.5	43	19	−16	6	32	1.70	+ 0.27	0.60	6.0	7	15	5	11	nw.	J. B. Johnston.
Davenport	Scott	580	39	21.2	+ 0.4	45	19	−13	6	34	1.69	+ 0.12	0.77	7.5	9	10	4	17	nw.	U. S. Weather Bureau.
Decorah	Winneshiek	873	17	14.3	− 1.2	41	20	−28	7	42	1.85	+ 0.70	0.80	18.5	8	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	19	15.7	− 0.1	36	20	−23	6†	36	1.06	+ 0.07	0.40	12.1	6	15	7	9	nw.	William Ball.
Des Moines	Polk	861	32	20.5	+ 0.1	48	19	−14	7	34	1.72	+ 0.51	0.96	12.3	6	10	6	15	nw.	U. S. Weather Bureau.
De Soto‖	Dallas	866	10	19.5	− 3.7	45	19	−21	6†	41	2.17	+ 1.33	1.20	13.0	4	17	2	12	nw.	R. D. Minard.
Dubuque	Dubuque	639	37	18.4	+ 0.1	44	20	−25	7	41	2.45	+ 0.96	0.93	22.1	9	9	6	16	nw.	U. S. Weather Buerau.
Earlham	Madison	.....	8	19.4	0.0	44	19	−24	6	37	2.09	+ 1.01	1.00	16.0	7	11	6	14	nw.	George Phillips.
Elkader	Clayton	727	31	13.4	− 1.4	46	19	−35	7	49	1.60	+ 0.29	0.80	26.5	3	21	8	2	nw.	Chas. Reinecke.
Elma	Howard	.....	1	12.7	.....	39	19	−34	7	42	0.73	.....	0.40	9.4	5	13	6	12	nw.	H. A. Moore.
Estherville	Emmet	1,298	15	13.8	− 1.2	42	19	−21	9	37	1.17	+ 0.61	0.50	15.5	5	12	0	19	nw.	A. O. Peterson.

TABLE 1—*Climatological data for January, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Cont'd.																			
Fairfield	Jefferson		26	22.2	− 4.6	50	19	−23	7	45	2.02	+ 0.32	0.58	5.9	8	16	13	2	se.	R. Monroe McKenzie.
Fayette‖	Fayette	1,003	20	13.0	− 3.1	42	19	−32	7	41	2.13	+ 0.85	1.00	23.0	5	17	3	11	nw.	R. Z. Latimer.
Forest City‖	Winnebago	1,226	16	15.8	− 0.4	39	19	−23	9	54	2.40	+ 1.76	1.40	24.0	4	11	8	12	w.	J. A. Peters.
Fort Dodge	Webster	1,126	10	14.4[a]	− 2.7	42	19	−22	9	53	1.80	+ 1.16	0.60	18.0	6	15	0	16	nw.	J. F. Monk.
Fort Madison	Lee	516	61	.....	.....	.....	.....	.....	.....	.....	2.06	+ 0.10	1.50	3.1	4	9	6	16	w.	Miss L. A. McCready.
Gilman	Marshall	1,052	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	19	15.8	+ 0.3	40	19	−25	7	38	1.85	+ 0.68	0.90	18.2	9	11	10	10	nw.	F. L. Williams.
Greene	Butler	.....	12	14.6	− 3.9	40	19	−26	6†	38	1.02	+ 0.38	0.40	14.5	6	5	12	14	w.	J. L. Cole.
Grinnell	Poweshiek	1,023	18	20.0	− 0.2	45	19	−20	6	36	1.66	+ 0.39	0.85	14.2	7	13	6	12	sw.	D. W. Brainard
Grundy Center‖	Grundy	976	19	17.8	+ 0.9	42	18	−34	7†	41	2.10	+ 1.28	1.00	21.0	4	14	6	11	nw.	J. B. Calderwood.
Guthrie Center‖	Guthrie	1,077	15	19.4	− 3.3	41	19	−21	6	31	2.08	+ 1.49	1.23	8.8	7	17	3	11	nw.	D. G. Beardsley.
Hampton	Franklin	1,155	20	16.6	+ 1.1	40	19	−20	6	40	1.85	+ 0.81	0.85	20.0	3	6	12	13	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	22	16.2	− 0.6	40	19	−28	6	43	2.65	+ 2.10	1.47	26.5	5	18	0	13	nw.	Henry S. Wells.
Independence‖	Buchanan	921	46	15.1	− 0.1	41	19	−30	7	38	2.25	+ 1.02	1.20	22.5	5	16	1	14	nw.	George Donohoe.
Indianola	Warren	969	19	21.0	+ 0.8	44	19	−13	6	28	2.35	+ 1.08	1.00	12.0	6	9	7	15	nw.	John L. Tilton.
Iowa City	Johnson	683	50	16.4	− 2.7	47	19	−26	6	50	1.79	+ 0.05	0.58	10.0	8	11	5	15	nw.	A. G. Smith.
Iowa Falls	Hardin	1,179	17	12.2	− 3.0	39	18	−30	6	56	1.77	+ 0.87	0.70	17.7	7	15	2	14	nw.	J. B. Parmelee.
Jefferson‖	Greene	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Jackson.
Keokuk	Lee	547	39	27.0	+ 3.3	52	19	− 8	6	28	1.61	− 0.08	0.78	3.0	7	9	11	11	nw.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	18	21.4	− 1.7	48	19	−22	6†	49	1.93	+ 0.56	0.68	7.5	7	8	11	12	.....	J. H. Landes.
Knoxville‖	Marion	920	15	22.0	− 1.1	45	19†	−14	6	33	1.90	+ 0.55	0.70	9.5	5	17	4	10	nw.	Casey & Belville.
Lacona	Warren	.....	11	.....	.....	.....	.....	.....	.....	.....	3.36	+ 1.69	1.52	14.0	9	7	19	5	.....	J. B. Alter.
Le Claire	Scott	576	10	.....	.....	.....	.....	.....	.....	.....	1.89	+ 0.46	0.73	9.7	11	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	18	16.5	− 2.9	46	19	−22	7†	53	1.92	+ 0.92	1.00	13.0	8	12	6	13	nw.	Ralph B. Reasoner.
Mason City‖	Cerro Gordo	1,132	13	13.1	− 2.0	37	19†	−26	7	37	1.35	+ 0.20	0.85	13.5	5	11	8	12	nw.	J. S. Mills.
Mount Pleasant‖	Henry	729	29	23.0	+ 2.0	44	19	−16	6	30	1.53	+ 0.07	0.55	6.5	9	12	6	13	nw.	J. W. Edwards.
Muscatine	Muscatine	.....	50	.....	.....	.....	.....	.....	.....	.....	1.73	− 0.18	0.60	6.9	8	.....	.....	.....	.....	William Molis
New Hampton‖	Chickasaw	1,160	13	15.1	− 3.7	38	20	−26	6	33	2.10	+ 1.27	1.00	21.0	5	12	7	12	n.	A. F. Kemman.
Newton‖	Jasper	944	22	19.8	+ 2.3	40	19	−17	6	32	1.17	+ 0.20	0.60	.....	2	19	3	9	s.	J. P. Beatty.
Northwood‖	Worth	1,222	14	11.7[d]	− 4.6	36[d]	17†	−24	6	33[d]	2.20	+ 1.35	0.90	21.5	7	17	7	7	nw.	Chas. H. Dwelle.
Olin‖	Jones	760	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Miles.
Osage	Mitchell	1,184	23	15.0	+ 1.0	38	19	−24	6	31	1.95	+ 1.03	1.00	24.0	3	12	5	14	nw.	A. D. Bundy.
Oskaloosa‖	Mahaska	843	34	21.2	+ 2.0	45	19	−22	6	36	2.32	+ 1.40	0.67	8.5	8	15	1	15	.....	Joseph Boyd.
Ottumwa	Wapello	649	15	24.3	− 0.2	51	19	−16	6	36	1.92	+ 0.32	0.82	6.7	5	4	10	17	nw.	W. J. Mesmer.
Pella	Marion	877	8	20.3	− 2.9	42	19†	−28	6	42	1.59	+ 0.47	0.51	10.9	5	20	1	10	nw.	John H. Ver Steeg.
Perry‖	Dallas	975	9	18.7	− 2.0	56	10	−24	6	52	2.10	+ 1.28	1.00	17.5	5	14	6	11	.....	J. A. Harvey.
Plover	Pocahontas	1,426	14	14.7	− 3.3	39	19†	−22	6	33	1.10	+ 0.52	0.65	11.0	3	19	4	8	nw.	J. S. Smith.
Pocahontas‖	....do	1,248	6	15.2	.....	40	19	−20	6	34	1.04	.....	0.45	10.5	6	16	3	12	nw.	F. E. Hronek.
Ridgeway‖	Winneshiek	1,215	12	16.1	− 3.1	42	19	−23	6	35	1.99	+ 0.01	1.05	12.5	8	14	6	11	s.	Arthur Betts.
Rockwell City‖	Calhoun	.....	14	18.9	− 0.9	40	18†	−17	6	35	1.80	+ 1.10	0.70	18.0	5	15	5	11	.....	C. M. Randall.
Sac City	Sac	1,278	34	17.1	− 0.3	43	27	−17	6	31	1.40	+ 0.42	0.70	14.0	3	8	9	14	nw.	E. N. Baily.
St. Charles‖	Madison	1,070	9	22.6	− 0.2	49	19	−15	6	35	2.16	+ 1.01	0.60	14.6	10	14	8	9	nw.	R. D. Minard.
Sigourney‖	Keokuk	877	14	21.2	− 1.6	43	19	−19	6	35	1.44	− 0.15	0.53	10.0	7	3	19	9	nw.	J. T. Parker.
Stockport‖	Van Buren	.....	8	21.7	.....	49	19	−25	6	47	1.56	− 0.08	0.72	5.0	7	14	3	14	nw.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	21	16.6[b]	− 0.8	39[b]	19	−19[b]	6	29[b]	0.86	+ 0.15	0.61	17.5	3	15	9	7	.....	S. B. Fracker.
Stuart	Guthrie	1,216	11	19.8	− 2.0	56	26	−15	6†	36	0.93	+ 0.16	0.65	9.3	3	11	9	11	n.	J. P. Fox.
Tipton ‖	Cedar	807	11	19.8	− 0.8	40	19	−18	6	30	2.07	+ 0.58	0.84	9.5	6	15	9	17	nw.	F. K. Gregg.
Toledo‖	Tama	856	16	17.8	− 1.3	42	19	−26	9	36	1.40	+ 0.45	1.00	14.0	2	16	7	8	nw.	I. F. Giger.
Wapello‖	Louisa	588	12	23.0[b]	− 2.1	43[b]	28	−14[b]	6	30[b]	1.39	+ 0.06	0.51	18.0	6	.....	.....	.....	nw.	G. W. Schofield.
Washington	Washington	769	28	21.0	+ 1.9	47	19	−19	6	34	1.73	+ 0.17	0.66	6.7	7	9	11	11	nw.	Wm. A. Cook.
Waterloo	Black Hawk	862	27	15.0	− 2.5	43	19	−25	7	49	1.49	+ 0.37	0.63	14.0	4	11	9	11	nw.	M. L. Newton.
Waukee	Dallas	1,039	7	18.6	.....	44	19	−19	6	32	1.42	− 0.26	0.48	8.8	9	9	13	9	nw.	Samuel F. Foft.
Waverly‖	Bremer	948	14	14.4	− 3.5	40	19	−29	7	37	1.62	+ 0.63	0.70	16.2	5	9	10	12	nw.	H. S. Hoover.
Webster City‖	Hamilton	.....	5	16.5	.....	44	19	−31	6	47	1.50	.....	0.60	15.0	3	13	7	11	nw.	C. D. Carpenter.
West Bend‖	Palo Alto	1,197	17	14.9	− 1.9	38	19	−22	6	36	1.25	+ 0.55	0.65	12.0	7	11	8	12	s.	Joseph Dorweiler.
Whitten‖	Hardin	1,036	13	15.8[c]	− 2.6	40[c]	19	−23[c]	6†	37[c]	1.30	+ 0.44	0.60	13.0	3	9	13	9	nw.	F. P. Butler.
Winterset‖	Madison	1,129	19	20.9	− 0.5	42	25	−19	6	31	1.72	+ 0.81	0.90	12.5	7	12	5	14	n.	Robert S. Cooper.
Zearing	Story	.....	6	15.5	.....	42	19	−30	7	43	2.90	.....	1.00	25.0	7	5	15	11	nw.	Orley Reese.
Missouri.																				
Gorin	Scotland	700	24	.....	.....	.....	.....	.....	.....	.....	2.12	+ 0.45	1.07	3.9	5	10	7	14	nw.	J. W. Pulliam.
Hannibal	Marion	534	18	28.6	+ 1.9	54	19	− 2	6	31	1.98	− 0.22	0.88	3.4	9	11	6	14	nw.	U. S. Weather Bureau.
Louisiana	Pike	500	32	29.8	+ 2.0	58	20	− 2	6	32	1.97	− 0.12	1.10	7.2	7	14	6	11	sw.	J. T. Farrell.
Mexico	Audrain	797	32	29.2	+ 0.2	55	19	− 1	6†	36	2.70	+ 0.60	1.39	8.0	9	14	4	13	w.	J. F. Llewellyn.
Steffenville	Lewis	576	17	28.1	− 0.8	52	25	− 6	6	28	2.40	− 0.01	1.96	7.0	7	15	5	11	w.	Lewis Spriggs.
Sublett	Adair	1,000	30	26.4	0.0	51	25†	−17	6	33	0.45	− 1.28	0.40	4.5	2	8	10	13	w.	Frank Hall.
Warrenton	Warren	865	20	29.4	− 0.1	59	25	0	6	38	2.81	+ 0.21	1.65	5.5	7	7	9	15	s.	Dr. J. H. Frick.
Indiana.																				
Collegeville	Jasper	.....	11	26.4	− 0.3	54	28	− 5	7	27	2.85	+ 0.46	0.85	3.1	9	6	11	14	nw.	Prof. L. C. Klosterman.
Knox‖	Starke	716	5	25.3	.....	47	26	− 6	7†	32	3.07	.....	1.35	6.7	11	6	12	13	w.	W. R. R. Tatman.
Laporte	Laporte	810	14	22.2[a]	− 2.9	44	20†	−15[a]	7	36[a]	1.84	− 0.41	0.32	12.6	12	5	8	18	w.	J. E. Hallinen.
Plymouth	Marshall	790	7	24.6	.....	45	26	− 9	7	32	1.66	.....	0.39	7.1	11	6	14	11	w.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	10	22.2	− 1.8	44	19	−15	6	33	1.79	+ 0.25	0.78	5.2	11	12	6	13	nw.	Wm. B. Frew.
Alexander	Morgan	670	17	28.2	+ 0.7	50	19	− 2	6	31	1.49	− 0.72	0.76	4.7	9	10	8	13	nw.	George H. Hall.
Antioch	Lake	861	9	20.0	.....	40	26	−19	7	31	2.20	.....	1.50	10.0	4	7	13	11	w.	J. C. James, jr.
Astoria	Fulton	650	11	26.2	− 0.3	50	19	− 6	6	32	1.73	− 0.65	0.75	4.0	5	12	6	13	nw.	Ed. V. Bohl.
Aurora	Kane	687	31	21.6	+ 0.6	41	20†	−17	7	35	2.35	+ 0.20	0.88	12.0	8	9	8	14	w.	W. Holden.
Bement	Piatt	700	3	28.2	.....	49	19†	− 1	6†	27	1.54	.....	0.83	1.5	6	13	14	4	w.	Rev. C. S. Adams.
Benton	Franklin	598	8	.....	.....	.....	.....	.....	.....	.....	1.30	.....	0.75	3.5	7	7	12	12	nw.	F. H. Stamper.
Bloomington	McLean	840	19	26.2	+ 0.6	45	19†	− 5[a]	6	29[a]	1.84	− 0.35	0.59	3.8	9	13	2	16	nw.	Prof. H. N. Pearce
Cairo	Alexander	359	33	36.3	+ 1.5	64	1	6	7	26	2.63	− 1.19	0.92	7.7	9	10	5	16	s.	U. S. Weather Bureau.
Carbondale	Jackson	412	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Normal University.
Carlinville	Macoupin	663	20	29.5	+ 0.4	53	19	1	6	28	1.92	− 0.40	0.77	4.8	8	15	5	11	se.	R. O. Purviance.
Chester	Randolph	380	6	36.0[a]	.....	64[a]	23	10[a]	6	36[a]	2.12	.....	1.14	0.0	9	18	8	5	w.	F. A. Gollon, jr.
Clinton	Dewitt	727	.....	27.2	.....	46	19†	− 4	6	29	1.95	.....	0.71	3.6	7	10	10	11	nw.	J. F. Ziegler.
Coatsburg	Adams	763	18	27.0	+ 1.6	48	19	− 5	6	31	0.29	− 1.89	0.15	2.0	3	13	2	16	n.	Dr. J. R. Lambert.
Cobden	Union	656	27	35.6	+ 1.7	65	1	− 2	7	31	2.43	− 1.12	1.47	5.0	5	8	10	13	n.	John Buck.
Dakota	Stephenson	929	5	17.0	.....	37	20†	−25	7	35	2.43	.....	0.70	20.1	8	7	15	9	w.	Rev. G. W. Kerstetter.
Decatur	Macon	685	19	27.4	+ 9.7	60	26	− 1	6	33	1.85	− 0.60	0.85	2.0	7	13	8	10	nw.	Prof. J. H. Coonradt.
Dixon	Lee	725	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. V. Bardwell.
Du Quoin	Perry	459	22	34.8	+ 2.9	67	1	5	7	30	1.43	− 1.14	0.98	1.5	6	16	6	9	nw.	G. H. Knetager.
Dwight	Livingston	600	17	24.0	− 2.3	43	26	−10	6†	37	2.37	+ 0.15	1.00	6.5	11	7	5	19	nw.	Ed. O. Welch.
Galva	Henry	842	18	20.4	− 1.9	42	19	−12	6†	39	1.75	− 0.03	0.76	6.8	10	16	2	13	nw.	Prof. F. U. White.
Greenville	Bond	635	32	30.6	+ 1.4	51	17†	3	6	23	1.93	− 0.91	0.55	1.5	8	7	5	19	nw.	M. S. Oudyn.
Griggsville	Pike	650	25	28.5	+ 1.4	52	19	− 2	6	30	1.07	− 1.08	0.72	2.5	4	13	11	7	nw.	Geo. F. Kneeland.
Halfway	Williamson	569	14	34.0	+ 0.1	60	19†	− 1	7	29	2.24	− 0.75	0.78	7.0	7	12	3	16	s.	E. L. Hearn.

TABLE 1.—*Climatological data for January, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Cont'd.																				
Havana	Mason	475	18	27.6	+ 0.1	46	19	− 3	6	32	1.88	− 0.32	0.78	2.0	5	5	19	7	w.	F. & C. Borgelt.
Henry	Marshall	500	22	23.6	+ 0.3	47	1	−11	6	41	2.24	+ 0.31	0.80	5.5	8	14	7	10	nw.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	16	30.7	+ 0.1	54	19	2	6	24	2.26	− 0.26	0.95	1.0	5	9	1	21	se.	Ira L. Woodward.
Joliet	Will	541	19	23.3	− 1.2	47	2	−10	7	34	2.52	+ 0.43	0.62	7.4	10	11	6	14	nw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	22	18.8	− 1.6	39	20	−23	7	42	1.54	− 0.72	0.52	14.5	11	11	9	11	sw.	Geo. Stevens.
La Grange	Cook	657	18	22.6	− 0.7	42	20†	−13	7	33	2.35	+ 0.36	0.72	9.7	10	10	4	17	nw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	31	25.4	+ 1.4	47	19	− 9	6	34	0.62	− 1.74	0.30	2.5	3	12	3	16	nw.	Jno. S. Campbell.
Lanark	Carroll	883	21	16.8	− 3.9	38	20†	−31	7	44	1.39	− 0.19	0.43	10.8	9	13	7	11	s.	M. N. Wertz.
La Salle	La Salle	536	33	22.2	− 0.1	44	26	−11	6	34	1.93	− 0.23	0.56	3.2	12	9	6	16	w.	U. S. Weather Bureau.
Lincoln	Logan	482	22	27.3	0.0	45	19†	− 4	6	25	2.71	+ 0.40	1.10	5.2	7	8	10	13	s.	Prof. C. S. Oglevee.
Martinton	Iroquois	633	23	23.8	− 0.3	47	26	− 9	7	43	2.55	+ 0.48	0.87	2.2	8	7	10	14	w.	Jos. H. Peltier.
Mascoutah	St. Clair	425	20	33.9	+ 2.9	67	1	5	6	32	2.33	− 0.43	1.49	0.2	7	9	12	10	nw.	Geo. Henrich.
Minonk	Woodford	745	17	24.0	− 0.1	48	19	− 7	7	35	1.45	− 0.38	0.58	5.0	9	14	9	8	nw.	O. M. Davison.
Monmouth	Warren	784	18	23.7	+ 0.7	46	19	−10	6	31	1.92	− 0.10	0.75	5.5	8	12	8	11	nw.	Hugh R. Moffet.
Morrison	Whiteside	685	16	19.4	− 1.9	40	20	−28	7	42	1.82	+ 0.07	0.48	14.1	10	13	6	12	nw.	S. A. Maxwell.
Morrisonville	Christian	638	11	29.0	+ 0.2	50	18†	0	6	24	1.77	− 0.48	0.97	1.2	7	11	10	10	nw.	J. D. Lowis.
Mount Vernon	Jefferson	511	16	32.8	+ 0.1	58	27	6	7	35	2.27	− 0.79	1.00	1.7	8	11	5	15	n.	Theo. P. Stelle.
Oregon	Ogle	702	1	18.8	.....	40	19†	−25	7	38	1.72	.....	0.50	17.2	13	8	5	18	w	Samuel Ray.
Ottawa	La Salle	500	24	22.8	− 1.3	43	26	−11	7†	38	2.78	+ 0.51	0.70	10.4	10	4	3	24	nw.	Miss M. M. Harris.
Pana	Christian	602	24	29.4	+ 1.0	52	26	1	6	31	1.90	− 0.67	0.97	1.0	7	18	2	11	nw.	C. W. Sibley.
Peoria	Peoria	600	33	24.4	+ 1.3	45	19	− 8	6	30	1.07	− 0.23	0.78	2.3	11	11	7	13	nw.	U. S. Weather Bureau.
Pontiac	Livingston	546	8	24.7	.....	44	19†	− 9	7	34	1.78	.....	0.70	3.0	7	7	7	17	sw.	Geo. Butterworth.
Riley	McHenry	956	51	19.4	+ 0.8	38	20	−21	7	30	2.23	+ 0.31	1.42	12.1	10	4	10	17	nw.	John West James.
Rockford	Winnebago	763	18	18.4	− 3.0	39	19†	−17	6†	36	2.06	− 0.50	0.53	18.3	9	9	3	19	.....	Hosmer C. Porter.
Rushville	Schuyler	670	19	27.5	+ 1.2	50	19	− 4	6	32	1.61	− 0.48	1.09	3.5	5	5	5	21	w.	H. F. Dyson.
St. Charles	Kane	700	15	21.1	− 1.7	40	26	−18	7	37	2.25	+ 0.20	0.72	12.6	8	8	12	11	nw.	Dr. Wm. H. Bishop.
St. Peter	Fayette	500	8	31.0	.....	54	19	4	6	34	2.22	.....	1.12	1.0	5	11	2	18	nw.	M. L. Lansford.
Springfield	Sangamon	644	33	28.0	+ 1.7	49	19	− 1	6	26	1.68	− 0.57	0.90	2.4	8	11	7	13	nw.	U. S. Weather Bureau.
Streator	La Salle	626	17	21.8	− 2.6	43	25	−10	6†	37	2.45	+ 0.37	0.80	2.0	7	2	19	10	w.	Edw. F. Sweetser.
Sullivan	Moultrie	530	10	30.0	+ 1.6	54	19	0	6	28	2.11	− 0.26	0.95	1.0	5	9	8	14	nw.	C. A. Corbin.
Sycamore	De Kalb	855	30	19.8	0.0	41	1	−16	6†	40	1.25	− 0.62	0.35	10.9	7	8	2	21	sw.	Miss E. J. Davis.
Tilden	Randolph	500	24	33.4	+ 0.9	60	19	6	6	30	2.45	− 0.06	1.05	1.0	8	11	6	14	s.	Jas. A. Caldwell.
Tiskilwa	Bureau	798	16	20.9	− 2.7	41	19	−15	6†	34	2.57	+ 0.47	0.65	9.5	9	16	2	13	w.	F. I. Smucker.
Walnut	...do	717	19	21.8	− 1.3	40	20†	−14	6	32	1.86	− 0.08	0.69	11.0	10	11	7	13	s.	O. C. Nussle.
White Hall	Greene	573	2	28.9	.....	55	19	0	6†	34	1.90	.....	0.79	4.2	7	13	2	16	w.	Dr. R. A. Pritchett.
Windsor	Shelby	681	11	29.3	+ 2.4	53	19	1	6	27	1.73	− 0.92	0.50	2.3	10	8	6	17	nw.	Herbert Rose.
Winnebago	Winnebago	900	23	18.4	− 2.3	39	19†	−22	7	38	2.41	+ 0.41	0.60	21.0	10	14	6	11	w.	Frank Osborn
Yorkville	Kendall	584	23	21.0	− 0.7	42	26	−15	7	42	1.49	− 0.45	0.50	6.1	8	7	5	19	w.	Herman A. Grimwood.
Zion	Carroll	938	16	17.2	− 3.6	41	20	−25	7	45	2.02	+ 0.34	0.80	19.5	7	14	2	15	w.	Robt. F. Gillogly.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 5, Upper Mississippi Valley.*

Stations.	River basins.	Day of month																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																																	
Amenia	Red					.20												T.			.20									T.	T.		0.40
Bottineau	Mouse	.04				.20												T.			T.					.16						T.	0.40
Cando	Sheyenne																																0.00
Crosby	Mouse				.07	.05	T.	T.	T.								.11	.06			T.				T.								0.29
Devils Lake	Sheyenne				.07	.02	T.	T.										T.			T.			T.	T.	.01		T.	T.	T.	T.		0.10
Donnybrook	Mouse				.10	.05	.05															T.											0.20
Dunseith	do																										T.		T.	T.			T.
Edmore	Sheyenne				T.	T.																							T.	T.			T.
Forman	do	.10	.30		.10											.09								T.									0.50
Grafton	Red					.19																											0.28
Granville	Mouse				.04	T.																			.08								0.12
Hannah	Pembina				1.10																				.70								1.80
Hansboro	Red	.04			T.	.05												T.			T.												0.09
Hillsboro	do				.05										.10															.01			0.16
Lakota	Sheyenne				.20	.05		T.		T.					.02						T.				T.	T.		T.	.07	.03	T.		0.37
Langdon	Pembina																																0.00
Larimore	Red																																
Lisbon	Sheyenne	.20	.10		T.	.30																				T.			T.			T.	0.60
McKinney	Mouse				.10										.10																		0.20
Manfred	Sheyenne				.10																												0.20
Mayville	Red					.02																								.10			0.03
Minot	Mouse					.05		T.																T.					.01				0.05
Minto	Red																	.02							.02	.02		.03	.02	.02	.03		0.16
Oriska	Sheyenne																																
Park River	Red																											T.	T.	T.			T.
Pembina	do																																0.00
Portal	Mouse																																
Power	Sheyenne		.10		.10	.20							T.				T.				.20										T.		0.60
Pratt	Mouse																																
University	Red														.05																		0.20
Wahpeton	do		T.																			T.					.05	.05	.05				T.
Walhalla	Pembina																																
Westhope	Mouse				.03	.02				T.							.03	T.							T.	.02							0.10
Willow City	do					.05																											0.05
Minnesota.																																	
Albert Lea	Mississippi		T.		.60	.30							T.	.80				.10			.10						.10		T.				2.00
Alexandria‖	do			.05		.20													T.		.07						.05	T.	.05	.03	.02	T.	0.47
Angus	Red					T.				T.					T.	.10		T.			.07				T.				T.	T.			0.10
Bagley	do																																0.26
Baudette	Rainy					.14	T.		.02												.26				T.					T.			0.16
Beardsley	Minnesota																																
Beaulieu	Red					.15												T.							T.								0.15
Bird Island	Minnesota	T.	.01		.21	.06								.02				.02			.10						.05		T.	T.	T.		0.47
Caledonia‖	Mississippi																																
Campbell‖	Red	.10	T.			.20																.20					.40						0.90
Cass Lake‖	Mississippi					.25											T.	T.											T.	T.			0.25
Collegeville	do		.03			.30												T.			.04						.32			T.			0.69
Crookston‖	Red					.10		T.			T.				T.				T.						T.	T.			T.	.02	T.	T.	0.12
Detroit‖	do		T.	T.		.34		T.										T.	T.		.05				T.	.10		T.	T.	T.			0.49
Fairmont (near)	Minnesota		T.		.70			T.					*	1.40			T.	T.	T.		.10						.30		T.	T.			2.50
Faribault	Mississippi		.03	.01	.11	.14		T.						.17			T.	.02	T.		T.						.02			T.			0.50
Farmington	do		T.	.10	.10	.20		T.		T.							T.	.10	T.		.05						.30		T.	T.			0.85
Fergus Falls	Red	.01	.19	.01	.10	.10				.01									.01		.12				.02		.27		.05	.01	.02		0.92
Fort Ripley‖	Mississippi			.04		.15	T.												T.		.03	T.				T.	.25				.03		0.50
Fosston	Red				.24		T.											T.			T.		T.	T.	T.			.06	.01				0.31
Glencoe	Mississippi		.02		.25	.60		T.						T.				.05	T.		T.						.60		T.	T.			1.52
Grand Meadow	do		.04		.56	.40								1.12								.02					.03			T.			2.17
Hallock	Red					.10			T.																								0.10
Halstad	do	.09				T.		T.			T.										T.							T.					0.09
Hinckley	St. Croix					.30		T.										.05			.05						.10						0.50
International Falls	Rainy	.10				.40																		T.				T.	T.				0.50
Kelliher	Red			T.	T.	.20													T.						T.				T.	T.			0.20
Lake Crystal	Minnesota				.24	.18								.05				.03			.05						.62						1.77
Leech Lake Dam	Mississippi					.28		T.		T.									T.		.09				.02		.06			T.			0.45
Little Falls	do		T.			.60											T.	T.			T.						.50		T.	T.			1.10
Little Fork	Rainy															T.								T.									
Long Prairie	Mississippi	T.		T.	.80	T.	T.														T.												1.00
Lynd (2)	Minnesota	T.	.05		.03								1.07									T.					.20	T.		T.			1.22
Mankato‖	do					.38								.40	T.				T.		T.						.07						0.96
Mapleplain	Mississippi		.10		.55	.10		T.			T.	T.		.01			T.	.11	.C2		.09					T.	.43		T.	.C2	.01		1.44
Milaca	do																																
Milan	Minnesota		.20		.80													T.	T.		.20						.05		T.	T.			0.51
Minneapolis	Mississippi		.10		.39			T.	T.		T.			T.			T.	.12	.04		.03						.37	.01	T.	T.	.02		1.25
Montevideo‖	Minnesota		.05			.35								.17					T.	.01					T.			.26					1.08
Moorhead	Red		.12		.16	.06				T.					.01		T.	T.			.14				.01	T.			T.	.02	T.		0.84
Mora	St. Croix		T.	.09	.10	.36		.04										T.			.10						.30						0.52
Morris	Minnesota		.05		.40														.02		.10						.10		.05	T.	T.		0.99
New London	Mississippi		.07		.38		T.	T.													.05							.18		T.	T.		0.72
New Richland	Minnesota		T.	.04	.20	.18								.83				.04	.04		T.						.07			T.			0.68
New Ulm‖	do		T.	.10	.20	.80								.30	T.		T.	.25	.05			.30				T.	.60	T.	T.	T.			1.40
Osakis	Mississippi	.02		.30	.15	.15		T.										T.			.10						.05		.04				2.60
Park Rapids‖	do					.25			.01		T.							.02	T.		.08				.01		.09		.22	T.	.01	T.	T.	0.81
Pine River Dam	do					.16											T.				T.						.09						0.60
Pokegama Falls	do					.26	.02			T.									T.		T.						.04			T.			0.25
Red Lake	Red					.18													T.					T.						T.			0.32
Red Wing‖	Mississippi			.06		.54			.03				T.	T.					.08	.02		.02					.02	.12			.04	T.	0.18
Redwood Falls	Minnesota		.05	.05	.40	.10								.60				.20			.05						.20		T.				0.93
Reeds Landing‖	Mississippi			.04		.35			.02					.12	.03				.05									.25		T.			1.65
Rochester‖	do					.60								.70	.20				.15												T.			0.86
Roseau	Red																																1.65
St. Charles‖	Mississippi		T.	.01		.48			T.					.30	.15				.10											T.			T.
St. Cloud	do		.13		.14	.17											T.				.06						.15						1.10
St. Paul	do		.06		.38	T.		T.	T.								T.	.13	.02		.05						.44		T.	.01	.01		0.65
St. Peter	Minnesota		T.		.35	.13		T.						.27				.15								.46			T.				1.10
Sandy Lake Dam	Mississippi			.06		.49											.30				.31						.20			.04			1.36
State Sanatorium	do					.27													T.		.07				T.		.12		T.	T.			1.40
Stillwater‖	St. Croix			.08		.42													.18								T.	.22			T.			0.46
Taylors Falls	do		.10		T.	.32												.10			.05						.05						0.90
Warroad	Rainy					.08																											0.62
West Concord	Mississippi				.40									.60				.10			.10						.10						0.08
Willow River	St. Croix																																1.30
Windom	Des Moines		T.		.25			T.				T.		.70			T.	T.	T.														
Winnebago‖	Minnesota				T.	.50				T.				.65	.25			T.	T.		.10						26		T.	T.			1.21
Winnibigoshish	Mississippi					.27		.02		T.								.01			.05			T.			.07	.20		T.	T.		1.10
																																	0.42

TABLE 2.—*Daily precipitation for January, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Cont'd.																																	
Winona	Mississippi		T.	T.	.30	22	T.	T:	T.					.40		T.	T.	T.	.10		T.						.05	T.	T.	T.	T.		1.07
Worthington‖	Des Moines			T.	.10	.05								.60	T.				T.									T.				0.75
Zumbrota	Mississippi		T.		.57			1						.30				T.			T.						T.			T.			0.87
South Dakota.																																	
Milbank	Minnesota			.09		.48															.12						.08	.03					0.80
Wisconsin.																																	
Antigo	Wisconsin				.02	.30							T.								.02	.02					.20			T.			0.56
Barron	Chippewa		.05	.10	T.	.80											T.	.15	.01		T.						.08						1.19
Beloit	Rock				.40				.08				.16	1.10			.18			.03										.02	T.		1.97
Brodhead	do				.90				.10				.20	.70	.30			.25	.35												.10		2.90
Burnett	do		T.	*	*	1.00			T.					*	.51		T.	*	.32		T.	.03				T.	T.	T.	T.	T.	T.		1.86
Delavan	do		T.		.12				.08				.10		.31			.50			*	.03					T.			.05	T		1.19
Dodgeville	do					.62	.56		.06				.22	1.02																	.55		3.03
Downing	Chippewa		T.		.20	.80		T.	T.								T.	.40	T.								.40	.20	T.				2.00
Eau Claire	do		T.	.10	.09	.23		T.	T.								T.	.13	.09		.01						.43			T.	T.		1.08
Ellsworth	Mississippi																																
Glidden	Chippewa				*	.50												.20	.10		.20	.10				T.	T.						1.10
Grand Rapids‖	Wisconsin				*	1.05								T.		T.	T.	T.			T.						*	.25	T.	T.			1.30
Grantsburg	St. Croix		.20			.80												.20			.30						.10						1.60
Hancock	Wisconsin				.40	.60		T.						.40					T.								T.	T.			T.		1.40
Hatfield	Black				*	.32								*	.23				.07								.10						0.72
Hayward	St. Croix				*	.50										T.	T.	.05			.10			.10			T.						0.75
Hillsboro	Wisconsin		.20		.60									.60		T.	T	T.			.10						T.	T.		T.	T.		1.50
Koepenick	do			.10	T.	.40															.10						.60						1.20
LaCrosse	Mississippi		.04		.48	.08		.01						.57		T.	T.	.10	T.		T.			T.			.04		T.	T.	.01		1.33
Lake Mills	Rock		.10	.02	.50	.10			.15	.01				.60	.05		.01	.14	.35		.04	.05					.02	.01		T.	.07		2.22
Lancaster	Mississippi				.62				.01				.19	.75				T.		T.	T.						T.			*	.05		1.62
Long Lake	Wisconsin			.03		.18												.09	.24		.03	.06		.01			T.	T.		.07			0.71
Madison	Rock		.03		1.05	.09		T.	.03	T.	T.		T.	1.21	.06	T.	T.	.28	.06		T.	T.					T.	T.	T.	.01	T.		2.82
Mather‖	Wisconsin					.50									.60				.20														1.30
Mauston	do				.70									.30																			1.00
Meadow Valley	do				.20	.10								.10				T.	.20		.05						.03						0.68
Medford	Black			.10	.20														.30		.10						.35						1.05
Merrill	Wisconsin			.03	.01	.30											T.	T.	.10		.02	.01		T.	.19					.01		0.67
Minocqua	do			T.		.30		T.										T.	.20		T.	T.		T.			.10	T.	T.				0.60
Mondovi	Mississippi		T.	.08	.20	.11	.11				T.			.20				.04	.01	T.				T.			.20			T.	T.		0.95
Mount Horeb	Rock			.06	.60								.12	.50				.25			T.	T.				T.					.10		1.63
Muscoda‖	Wisconsin		.12			.74	T.	T.	T.			T.	T.	.40	1.00			*	.05								T.	T.		T.	T.		2.31
Neillsville	Black				.25														.23								.50						0.98
New Richmond	St. Croix		T.	.01	T.	.67		T.									T.	.42									.20						1.30
Osceola	do		.14		.30			T.										.13			T.						.18		T.				0.75
Portage	Wisconsin	.05			.60									.15				.07															0.87
Prairie du Chien‖	Mississippi		T.	.04		.84			T.				T.	.43	.38				.02			T.								T.			1.71
Prentice	Chippewa			.17		.22		.06										.40			T.	T.					T.				.11		0.96
Rhinelander	Wisconsin		T.	.10		.10												.04	.20	.02							T.	.02					0.48
Sauk City	do				.80									1.00				.05			T.												1.85
Shullsburg	Mississippi				*	.77			T.				.37	*	1.02				.43		T.	T.								T.	.04		2.63
Solon Springs	St. Croix					.80												T.			.50						T.		.10				1.40
Spooner	do		T.			.41		T.	T.								T.	.06			.06						.05		T.	T.			0.58
Stanley	Chippewa		T.	.10	.03	.25		T.										.25	.10		.05						.46		.03	T.			1.27
Stevens Point	Wisconsin			.08	*	.75												.03	.25			.05					.20	.11				.10	1.57
Valley Junction	do		T.	.03	.40	.30		.25						40			T.	T.	.03		.05						.03	.25		.25	T.		1.32
Viroqua	Mississippi		.06	T.	.45	.15		T.	T.					.35	.03	T.		T.	.04		T.	T.					.02	T.	T.	T.	T.		1.10
Vudesare	Wisconsin			T.	.11	.20												.10	.20		.08	.24		T.		T.	.07	T.	T.	T.	T.		1.00
Watertown‖	Rock			.08		.70			.05	.05			.30	.20	.50				.40			.08						.04	T.	T.	.02	T.		2.42
Waukesha	Fox					.70			.12					*	1.10				.30			.05						.05			.05			2.37
Wausau	Wisconsin			.09		.20					.06							T.									.32		T.	T.	.08			0.75
Weyerhaeuser	Chippewa		.16		T.	.38		T.	T.		T.						T.	.38			.02						.03		T.				0.97
Whitehall	Mississippi				.20	.20			T.					.30		T.			.20									T.						0.90
Iowa.																																	
Albia‖	Des Moines				T.	.50				T.			.35	.63	T.			T.	T.			T.					T.	T.		T.	T.		1.48
Algona	do				.42	.06							.13	.60				.03			T.						.07		.02	T.			1.33
Alta‖	Raccoon		.01		.20	.25								.60	.18				.07								.01	.02	T.	.01	.01		1.36
Amana	Iowa		T.		.64	.08			T.				.44	.59	T.		T.	.21	.02		.01						T.		T.	T.	T.		1.99
Ames	Skunk				.60				T.				.50	.10													T.		.16				1.30
Baxter	do				.30	.09			.01		T.		.34	.55			T.		.67		T.						.02		.02	.01			1.41
Belle Plaine	Iowa				.60				.10				.20	.60				.20			.10						.50			.10	.05		2.45
Belmond	do		.02		.45	.25			T.				.12	.15	.04	.02		.10	.02		.08	.02					.15		.04	.02	.02	.01	1.51
Bloomfield	Mississippi				.55								.55					T.			.05						.09			.05			1.29
Bonaparte	Des Moines				.75								.71	.38	T.				T.		T.						T.			T.			1.84
Boone‖	do				T.	.92			T.				.01	.75	.11				T.								T.	T.			T.	T.	1.79
Britt	Iowa		T.		.34	.12							T.	.29				.02			T.						T.			T.			0.77
Buckingham	Cedar				.28									.40	.16						T.						.02						0.86
Burlington‖	Mississippi					.38			T.				.20	.63	.03		T.	T.	.01		.09							.20		T.	.07	T.		1.61
Carroll‖	Raccoon				.30								.45				T.																0.75
Cedar Rapids‖	Cedar				.50				T.			.06	.32	.21			.03	.23			T.				T.		T.		T.	T.	T.		1.35
Charles City	do		.02		.84	.04		T.					.20	.53		T.		.08	T.								.04		T.	T.	T.		1.75
Clear Lake	do				.40	.15								.05					.05														0.65
Clinton	Mississippi				1.30				.11					.80				.25			.05						T.			.10			2.51
Columbus Junction	Iowa				.55				T.				.60	.42	.01		T.	.08	.03		.01						T.	T.		T.			1.70
Davenport	Mississippi		T.		.46	.02			T.				.77	.28			T.	.09	.01		.03					T.	.01			.02	T.		1.69
Decorah	do		.04		.80	.26		T.					.12	.39	.09				.10		T.						.05			T.	T.	T.	1.85
Delaware	do				.40			.05					.30	.20				.10			.01						T.			T.	T.		1.06
Des Moines	Des Moines				.96	T.			T.	T.		T.	.37	.24			T.	.05			T.						T.		.08	.02	T.		1.72
De Soto	Raccoon				1.20	.50			T.				.18	.29	T.				T.								T.		T.	T.	T.		2.17
Dubuque	Mississippi		T.	T.	.90	.03		T.	.02				.37	.88	.01	T.	T.	.22			.01						T.		T.	T.	.01		2.45
Earlham	Raccoon				1.00	.30			T.	T.			.24	.40			T.	T.	.05		T.						T.		T.	.05	.05		2.09
Elkader	Mississippi				.80				T.				.14	.66							T.							T.	T.				1.60
Elma	Wapsipinicon	T.			.08								.10	.40	T.			.07	.08		T.						T.			T.	T.		0.73
Estherville‖	Des Moines				.30	.20								.50	.07													.10						1.17
Fairfield	Skunk				.58	.23							.62	.40			T.	.06	.01		.10						T.		T.		.02		2.02
Fayette	Mississippi			T.	1.00	.15							.33	.60				T.			T.						.05			T.			2.13
Forest City‖	Cedar		T.	T.	.50	.50								.80	.60			T.			T.						T.			T.			2.40
Fort Dodge‖	Des Moines				.10	.60								.40	.60							.05							T.		.05			1.80
Fort Madison	Mississippi				.21								1.50					.25			T.						T.	T.		.10			2.06
Gilman	Iowa																																
Grand Meadow	Mississippi		T.		.90	.05		T.	T.				.20	.60				.05			.02						.01	.01		.01			1.85
Greene	Cedar		T.		.23								.22	.40					.07		.05						.05			T.			1.02
Grinnell	Iowa				.84	.10			T.				.12	.40	.05		T.	.12			T.						T.		T.	.02	T.		1.66
Grundy Center	Cedar				1.00								T.	.80	.20						.10						T.			T.	T.		2.10
Guthrie Center	Raccoon				1.23	.07			T.	T.			.24	.50	T.		.01	.02	T.		T.						T.		T.	.01	T.		2.08
Hampton	Cedar				.85								.80	.20																			1.85
Humboldt	Des Moines				.48						1.47			.65	.03						T.							.02						2.65
Independence	Wapsipinicon				.50								.40	1.20							10						.05						2.25

TABLE 2.—*Daily precipitation for January, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Iowa—Cont'd.																																	
Indianola	Des Moines				1.00	T.				T.			.48	.30	T.		T.	.02	T.		T.						T.		.50	.05	T.		2.35
Iowa City‖	Iowa					.58				.04			.30	.49	.16			.03	.15			T.						T.			.04		1.79
Iowa Falls‖	do	T.	T.		.70				.02				T.	.50				T.	.03			.30						.20		.02	T.	T.	1.77
Jefferson	Raccoon																																
Keokuk	Mississippi				.58				T.			.04	.78	T.			.02	.12			.01						T.		T.	.06	T.		1.61
Keosauqua‖	Des Moines					.57							.40	.68	.10			T.	.08		.05						T.			T.	.05		1.93
Knoxville	do	.70							T.				.45	.60		T.		.10			T.						T.		.05				1.90
Lacona	do				.60	.40					10	1.12	.40	.20			T.				.24				.10				.20				3.36
Le Claire‖	Mississippi			T.		.73				.01			.28	.42	.19			.01	.19			.01						.02			.01	.02	1.89
Marshalltown‖	Iowa				T.	1.00			T.	.03			.09	.60	.08			.01	.07			T.					T.	.04		T.	T.	T.	1.92
Mason City	Cedar				.85								.10	.30				.05			T.						.05						1.35
Mount Pleasant	Skunk		T.	T.	.45	.05						T.	.55	.21			T.	.11	.05		T.	.07					.01	T.	T.	T.	.03		1.53
Muscatine‖	Mississippi			T.		.60					T.		.33	.49	.14			.02	.10			.02						T.			.03		1.73
New Hampton	Wapsipinicon				1.00	.30							.20	.40													.20						2.10
Newton	Skunk				.57									.60																			1.17
Northwood	Cedar	T.	T.		.80	.10							.05	.90			T.	.15			.05						.15						2.20
Olin	Wapsipinicon																																
Osage	Cedar				1.00								.75	.20																			1.95
Oskaloosa	Des Moines				.23	.40			T.				.25	.47	.32			T.			.30						T.		*	.40			2.32
Ottumwa	do				.82	.03							.58	.47			T.	.02	T.	T.	T.						T.		T.	T.	T.		1.92
Pella	do				.42				.09				.30	.51	T.	T.	T.	.07	T.		T.						T.		T.	T.	T.	T.	1.59
Perry	Raccoon				1.00	.30			T.				*	.60	T.		T.	*	.10		T.								.10	T.			2.10
Plover	Des Moines				.40									.65				.05	T.								T.		T.	T.	T.		1.10
Pocahontas	do		T.		.30	.15							.05	.45				T.			T.					T.	.04		.05				1.04
Ridgeway	Mississippi		.05		1.05								.04	.64		T.	T.	.13			.03						.04			.01	T.		1.99
Rockwell City	Raccoon				.70								.30	.60				.10		.10							T.		T.	T.			1.80
Sac City	do				.70					T.			.20	.50				T.									T.			T.			1.40
St. Charles	Des Moines				.47	.47				.02			.60	.35	.04			T.	.03								.08		.05	.35			2.16
Sigourney	Skunk				.46				.03				.53	.20				.16	.03	T.								T.			.03		1.44
Stockport	do				.43	.04			T.				.72	.28	T.		T.	.06	.02		T.						.01		T.	T.	T.		1.56
Storm Lake	Raccoon		.02		.23					T.				.61															T.	T.			0.86
Stuart‖	do				.10	.65				T.				T.	.18			T.	T.								T.			T.	T.		0.93
Tipton	Cedar				.75				.19				.84	T.				.28			.08					T.			.02				2.07
Toledo	Iowa				1.00									.40							T.						T.						1.40
Wapello	do				.20	.15							.51	.29					.23			.01						T.					1.39
Washington	Skunk				.66				.01				.55	.33				.12			T.						.02		.04				1.73
Waterloo‖	Cedar				.63				T.					.58	.22			T.			.06						T.		T.		T.		1.49
Waukee	Raccoon				.45	.08			T.	T.	T.	T.	.48	.20	T.		T.	.02	.06		T.						.04		.36	.03	T.		1.42
Waverly	Cedar		T.		.60	.12			T.				.15	.70				T.	T.		T.						.05		T.	T.	T.		1.62
Webster City	Des Moines				.50	.40							T.	.60					T.		T.						T.		T.	T.			1.50
West Bend	Des Moines				.50								*	.65				.02			.02						.03		.03	T.	T.		1.25
Whitten	Iowa				.50	.20			T.				T.	.60				T.															1.30
Winterset	Des Moines				.90	.20			T.	T.			.22	.15	T.		T.	.15	.05		T.						T.		.05	T.	T.		1.72
Zearing	Iowa				.80	.30			.10				.40	1.00							.15						.15						2.90
Missouri.																																	
Darksville	Chariton				.10								1.55					.12												.10			1.87
Gorin	Mississippi				.84								1.07					.12											.03	.06			2.12
Hannibal	do	T.	T.		.81	.32						T.	.87	.09			.01	.02			T.								.01	.12	.03		1.98
Lousiana	do				.20	.10						T.	1.10	.10	T.			.15	T.		.02					T.			T.	T.	.30		1.97
Mexico‖	do			.01	.03	.64							.10	1.39				.09	.04											.05	.35		2.70
Steffenville	do	T.			.10								1.96					.40	T.	T.		T.											2.40
Sublett	do				.40								T.	T.							T.								T.	.05	T.		0.45
Warrenton‖	do	T.		.05	T.	.70							.16	1.65	T.		T.	.02	.01											T.	.22		2.81
Indiana.																																	
Collegeville	Iroquois	.25	.02			.85			T.				.30	.08	.80			T.	.50			T.	.04				T.			T.	.01		2.85
Knox	Kankakee		T.		T.	.74				.02			.75	.60	.08			.18	.33		.14						.10	.03		T.	.10	T.		3.07
Laporte	do		T.	T.	T.	.08			T.	.08	T.		.29	.32			T.	.30	.07		T.	.10			T.		.03	.08		.04	.30	.15	1.84
Plymouth	do	.03	T.	T.	T.	.26				T.			.39	.16	.08			.15	.23			.19	T.				.05	.02		T.	.10			1.66
Illinois.																																	
Aledo	Mississippi				.34	.29			T.				.78	.12	.02		.02	.11	T.		.03	.04					.01				.03		1.79
Alexander	Illinois	.01		T.	.19	.57							.40	.13	T.		T.	.07	.01		T.	.01				T.				T.	.10		1.49
Antioch	do				.20	.30								1.50				.20												T.			2.20
Astoria	Illinois		T.		.50								.75	.25		T.	T.	.15	T.		T.						T.			T.	.08		1.73
Aurora	do			T.	*	.88							.57	.25	.03		T.	T.	.46		T.	.06					T.	T.			.10		2.35
Bement	Mississippi	.05	.01		.83								T.	.25	T.			.25													.15		‖1.54
Benton	do				T.		.10							.75				.15	.05		.10		.05							.10		1.30
Bloomington	Illinois			T.	.19	.40				T.			.56	.20	.02			.30	.08		T.	.03					T.			.06			1.84
Cairo	Mississippi		T.	T.	.07	.83	.39						T.	.27			.05	.73	.19		.18		.01										2.63
Carbondale	Mississippi																																
Carlinville	Illinois	T.	T.	.01	.20	.51							.41	.36			T.	.15			.13									.15			1.92
Carlyle	Mississippi												1.30	.85					.45														2.60
Chester	do			.01	.40	.32							.04	1.10			.08	.12					.01							.04			2.12
Clinton	Illinois			T.	.20	.47				T.			.71	.30	.03		T.	.14	T.		T.	T.					T.			.10			1.95
Coatsburg	Mississippi				.15								.04					T.												.10			0.29
Cobden	do					T.	1.47						T.	.63			.07	.08	.18											T.			2.43
Dakota	Mississippi				.33	.46			.07				.28	.70	.10		T.	.18	.31		T.	T.								T.	T.		2.43
Decatur‖	Illinois			.05	.85							.40	.27	T.				.08	T.		.05	T.								.15			1.85
Dixon‖	Mississippi																																
Du Quoin	do		.02			.17							.98			T.	.10	.08			T.									.08			1.43
Dwight	Illinois		T.	T.	.08	.61			T.	.03			.60	.40	.11		T.	.24	.09		T.	.08					T.			.08	.05		2.37
Edwardsville	Mississippi		T.		1.17	.02							1.27	.44			.03	.13												.08			3.14
Galva‖	Illinois				.37	.13			T.	T.			.76	.02	.08		T.	.16	.10		.07	.02					T.			.04			1.75
Grafton‖	Mississippi		.12		.04	.20							.16	2.64				.08	.04											.20			3.48
Greenville	do				.30	.40							.45	.55			.03	.05				.05								.10			1.93
Griggsville	Illinois				.05								.72					.10	T.		T.								T.	.20			1.07
Halfway	Mississippi		T.		T.	.78	.32							.71			.06	.08			.18	T.								.11			2.24
Havana	Illinois				T.	.78							.75	.17				.10	T.		T.						T.			.08			1.88
Henry	do				.13	.59							.80	.23	.13		T.	.20	.11		T.	.05					T.			T.			2.24
Hillsboro	Mississippi				.20	.95							.45	.58			T.	T.				T.								.08			2.26
Joliet	Illinois	T.	T.		.55	.08			.02				.62	.35	.11		T.	.60	T.		.07	T.					.02		T.		.10		2.52
Kishwaukee	Mississippi	.03	T.		.52				.02				.25	.25	.05		T.	.23	.15		.02	T.					.01			T.	.01		1.54
La Grange	Illinois	T.		.01	.07	.72			.02	.02			.53	.48	T.		T.	.40			T.	.03					T.				.07		2.35
La Harpe	do				.30	T.							.18	T.	T.		T.	T.			T.						T.			T.	.14		0.62
Lanark	Mississippi	T.	T.		.15	.12							.20	.23	.15		T.	.18	.25		T.						T.	.05		T.	.06		1.39
La Salle	Illinois	T.	T.		.56	T.			.03				.55	.30	.02		.01	.34	.04		.03	.01					.01			T.	.03		1.93
Lincoln	do	T.	T.	T.	.15	1.10				T.			.70	.33	T.		T.	.18	T.		T.	.05								T.	.20		2.71
Lonmi	do	T.			.25	.65						T.	.36	.05	T.	T.	T.	.25	T.		T.	.04				T.					.15		1.75
Martinton‖	do		T.		.87				T.			30	.70	.10			.15	.23			T.						T.	T.		.10	.10		2.55
Mascoutah	Mississippi		T.		*	.63	T.	T.					.55	.94			.07		.12												.02		2.33
Minonk	Illinois		T.		.03	.05			T.				.58	.30	.20		T.	.05	T.		T.	.14					.03				.07		1.45
Monmouth	Mississippi				.44	.14							.73	.19			T.	.16	.10		.05										.09		1.92
Morrison	do		T.		.20	.48			.02				.36	.32	.11				.15	T.	.05	.03									.10		1.82
Morrisonville	Illinois			.02	.14	.83							T.	.43	T.		T.	.27	.02		T.	T.									.06		1.77
Mt. Vernon‖	Mississippi					.50		.10						1.00	.15			.07	.32			.02									.11			2.27

TABLE 2.—*Daily precipitation for January, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Illinois—Cont'd.																																	
Oregon	Mississippi		.10		.30	.20			.08				.20	.30	.30			.03	.05		.05	.05					.01				.05		1.72
Ottawa	Illinois				.26	.65			.04				.70	.40	.16			.40	.08		T.					.02	T.			T.	.07		2.78
Pana	Mississippi			T.	.05	.97							.04	.39	T.		T.	.26	.10			T.				T.					.09		1.90
Peoria	Illinois	T.	T.		.70	.08			T.			.03	.61	.26	T.		.01	.12	.03		.05	T.				T.	T.		T.	.01	.07		1.97
Pontiac	do		T.		T.	.10				T.			.70	.38	T.			.30	T.			.10					.10				.10		1.78
Riley	Mississippi		T.		*	.20			.03				*	*	1.42		T.	.17	.31		.01	T.						.02		T.	.07		2.23
Rockford‖	do			.01	.52				.03				.05	.29	.53			.50				T.								.03	.10		2.06
Rushville	Illinois				.20								1.09	T.			.05	.12			T.									.15			1.61
St. Charles	do	T.	T.		.15	.72			T.				.36	.30	.15		T.	.45			T.	.01				T.	T.	T.			.11		2.25
St. Peter	Mississippi				‖.30‖	.35							.78	.34			.25	.10					T.								.10		‖2.22
Springfield	Illinois	T.	.01		.90				T.				.40	.04	T.		T.	.15	T.		.05	T.				T.			T.	.05	.08		1.68
Streator‖	Illinois			T.		.80			T.			.38	.60	.16			T.	.40			.07									.04	T.		2.45
Sullivan	Mississippi					.95							.14	.51				.41			T.	T.									.10		2.11
Sycamore‖	do					.20							.05	.30	.35				.17			.06						T.			.12	T.	1.25
Tilden	do			.04	T.	.53							.33	1.05			.13	.13	.20											T.	.04		2.45
Tiskilwa	Illinois	T.		.01	.65				.05				.50	.42			T.		.62		.20						.02				.10		2.57
Walnut	Mississippi				.10	.59			.02	T.			.53	.21			T.	.06	.15		T.	.13					.01			T.	.06		1.86
Warsaw‖	do				.30																								.21			0.51
White Hall	Illinois			T.	.20	.59							.52	.16	T.		.01	.15			T.									T.	.27		1.90
Windsor	Mississippi			.10	.20	.30							.04	.50	T.		.01	.33	.03			.02									.20		1.73
Winnebago	do		T.		.40	.20			.06				.40	.60	.10			.30	.15		.10										.10		2.41
Yorkville	Illinois	T.	T.	T.	T.	.20			T.				.50	.50	T.			.05	.05		.02	.05					T.	T.			.12		1.49
Zion	Mississippi	T.			.50				.50				.35	.80				.02	.20		T.										.10		2.02

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.															
	Bottineau.‡‡		Devils Lake.		Lisbon.‡‡		Minot.‡‡		Pembina.‡‡		Collegeville.		Crookston.‡‡		Grand Meadow.		Montevideo.‡‡		Moorhead.		New Ulm.‡‡		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	0	−7	24	−6	12	12	4	−5	−2	−8	32	4	6	5	30	10	18	15	32	−3	26	7	25	0	33	5	28	8
2	−1	−12	5	−15	5	−12	10	−5	−12	−18	10	−3	9	−5	12	2	10	−14	9	−4	20	3	10	−11	9	1	9	−8
3	−8	−28	−9	−26	−2	−24	−4	−29	−14	−35	10	−15	−12	−21	8	−12	−5	−15	−4	−23	2	−4	6	−21	9	−17	7	−22
4	−4	−26	−2	−25	−5	−32	−2	−27	−8	−28	1	−21	0	−22	4	−20	5	−22	1	−25	5	−18	6	−30	11	−16	−2	−26
5	0	−16	−1	−15	−2	−22	11	−7	−7	−16	9	−5	3	−10	8	−12	2	−5	4	−12	1	−8	13	−4	11	−10	3	−4
6	5	−19	10	−16	5	−18	12	−11	2	−18	7	−15	7	−20	−2	−20	10	−22	5	−23	5	−19	1	−30	−3	−17	9	−15
7	8	−4	7	−7	−2	−17	13	1	10	−6	14	−6	0	−8	6	−17	11	−2	6	−2	16	−17	11	−7	8	−9	14	−2
8	8	−20	1	−12	2	−13	7	−16	5	−8	13	−6	5	−10	5	−10	13	3	2	−16	18	−5	10	−22	9	−4	13	−16
9	7	−16	7	−5	20	−17	18	−20	8	−12	10	−15	20	−8	9	−16	23	−22	15	−19	20	−19	12	−19	4	−12	10	−8
10	10	−14	17	−6	13	−8	24	−1	16	0	24	1	15	−1	26	−8	24	5	15	3	26	−18	6	−8	25	4	22	3
11	15	−12	22	−4	9	−2	24	−5	8	2	23	2	16	0	30	8	28	−1	15	−2	30	4	15	−12	29	19	27	0
12	14	−6	11	−8	8	−6	10	−15	10	−4	28	10	17	3	32	18	27	7	18	−5	39	11	21	−12	31	18	23	−8
13	14	−6	17	−4	10	−10	26	−13	4	−8	28	18	20	2	28	22	26	13	18	1	25	22	28	15	30	22	25	13
14	21	−6	15	−7	6	−16	28	7	−2	−12	25	19	20	3	25	5	22	5	20	0	19	−2	26	9	26	8	23	7
15	25	5	27	7	8	−18	36	16	7	−16	23	5	25	10	21	−3	32	7	25	10	27	1	20	3	26	5	22	11
16	7	−10	14	−2	12	−10	12	−2	−4	−10	33	22	15	12	30	19	35	15	26	10	35	9	32	3	33	26	30	20
17	11	−10	11	−1	18	−12	21	0	8	−12	34	23	15	3	28	15	22	13	14	4	32	12	32	12	35	17	30	15
18	20	−8	26	−7	30	−3	38	−8	13	−4	26	11	16	−6	33	5	43	0	20	−3	37	11	20	4	19	9	23	0
19	31	0	38	23	32	6	35	11	8	−9	40	12	33	−4	39	8	27	22	36	12	38	17	40	0	38	8	41	5
20	15	10	28	8	37	10	30	10	16	−6	38	19	22	16	36	20	18	3	34	14	20	12	36	14	34	15	35	16
21	20	−5	18	−2	31	12	38	3	18	−2	24	8	16	2	35	21	23	7	14	1	23	7	20	0	23	8	23	−3
22	31	−2	34	16	32	4	40	22	28	−4	28	9	30	0	24	8	35	12	34	11	25	12	22	−8	25	0	28	−1
23	19	10	22	10	37	7	38	11	26	8	25	16	20	3	22	0	22	15	20	8	28	13	27	8	25	12	21	9
24	22	5	21	15	34	10	40	9	22	6	21	8	23	8	26	0	25	12	22	16	32	0	20	−1	23	4	22	0
25	28	13	27	16	34	8	39	17	18	11	32	13	29	17	35	14	32	15	30	22	34	2	28	10	36	19	25	8
26	30	18	31	20	29	24	.....	18	22	0	31	23	29	23	31	25	31	19	30	14	30	6	27	22	30	27	26	21
27	20	8	25	10	29	6	31	.....	26	8	33	17	27	10	30	13	33	13	29	8	29	12	27	10	27	12	29	15
28	14	4	19	9	24	12	18	1	22	10	26	15	24	10	25	14	24	12	22	10	31	16	26	−2	25	14	29	4
29	18	5	19	9	21	6	26	0	18	7	27	19	20	13	24	11	25	14	19	8	34	18	23	13	26	15	23	7
30	28	−5	17	7	20	−1	38	−9	10	0	23	11	18	12	22	10	25	13	20	0	37	21	19	6	21	7	23	8
31	34	6	38	16	34	−3	43	2	36	8	30	8	34	6	23	−5	35	5	34	5	41	.....	25	−13	27	−2	30	−1
Mns	14.9	−4.8	17.4	−0.1	17.5	−4.1	23.6*	−1.5*	10.1	−5.7	23.5	6.7	16.8	1.4	22.7	4.0	22.6	4.6	19.9	0.6	25.3	3.5*	20.5	−2.3	22.7	6.1	21.6	1.8

Date.	Wisconsin.														Iowa.											
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausaw.		Algona.		Cedar Rapids.‡‡		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	36	21	35	17	38	15	36	20	37	18	33	5	46	15	32	0	37	6	31	10	38	21	38	13	39	21	42	34
2	32	12	20	1	16	8	20	10	33	6	10	−5	36	−4	11	1	17	13	10	7	23	17	17	10	21	12	34	17
3	15	−5	10	−10	11	−13	10	−10	12	−8	8	−13	16	−1	11	−10	12	10	10	−15	17	0	14	−2	12	−6	22	13
4	16	−15	12	−19	15	−14	18	−12	12	−15	10	−21	11	−12	6	−12	13	−5	8	−15	15	−2	12	−4	14	−8	19	4
5	20	−3	13	−1	15	−12	18	−8	15	−2	12	−3	14	2	5	−16	−2	−2	7	−15	16	−4	10	−7	14	−8	19	2
6	4	−18	1	−19	2	−21	4	−15	10	−22	3	−19	22	−14	1	−22	−1	21	−5	−32	2	−13	4	−13	4	−18	9	−8
7	10	−24	9	−19	11	−21	8	−18	9	−26	8	−12	24	−20	13	−13	16	−27	5	−31	18	−12	17	−14	16	−25	29	−2
8	22	−5	9	−10	13	−10	14	−2	15	−8	5	−19	26	−20	11	−5	18	−23	8	−18	22	−3	17	−6	16	0	33	23
9	12	−13	10	−20	10	−19	14	−7	18	−18	11	−14	17	−16	13	−21	12	−19	2	−22	12	−8	15	−8	14	−14	23	−4
10	23	−19	24	−5	28	−3	27	−9	25	−14	21	2	22	−9	31	2	33	−21	29	0	31	−3	39	5	28	−8	38	10
11	34	17	32	20	30	9	33	20	30	9	27	19	28	20	27	4	36	13	27	6	39	27	36	17	34	20	46	34
12	33	18	33	10	31	17	32	17	27	8	26	10	36	10	32	20	35	16	32	23	36	33	36	33	34	29	38	34
13	31	27	30	22	28	26	30	23	28	25	28	18	30	22	30	18	33	31	28	23	34	28	34	24	32	25	35	31
14	28	10	29	5	27	2	23	6	26	9	26	−1	34	15	20	10	24	22	25	−6	29	21	24	10	25	4	31	24
15	26	−8	19	−6	23	−5	22	2	21	−15	20	7	37	7	26	8	28	−3	24	−6	28	20	30	12	25	−1	30	25
16	30	19	31	4	32	23	30	22	32	12	30	12	28	11	33	20	34	18	32	27	32	27	35	30	32	25	34	26
17	33	28	34	29	35	32	33	30	34	29	34	20	32	9	33	21	34	28	24	19	38	32	37	25	34	32	44	33
18	32	15	34	7	32	13	32	12	32	15	21	0	32	9	22	3	20	16	18	3	34	14	27	17	34	12	35	24
19	35	8	35	3	41	10	39	8	40	11	31	6	32	5	38	10	45	10	41	5	45	14	48	27	43	10	52	29
20	40	30	34	22	40	21	39	24	42	30	31	1	25	18	37	20	39	9	38	15	43	23	40	19	44	22	45	30
21	31	17	28	8	22	12	24	12	30	12	21	2	34	11	21	9	22	12	22	3	23	11	26	10	24	14	30	20
22	23	5	26	−4	26	−1	24	8	26	−5	24	−2	25	5	32	−1	29	3	24	−4	29	5	34	8	29	5	37	9
23	32	17	30	10	30	12	28	16	29	10	28	10	26	14	29	19	29	2	24	7	31	19	35	23	31	20	37	27
24	32	12	26	−3	25	0	28	11	27	−22	23	−6	28	−1	23	−1	27	5	21	−6	30	19	30	12	29	12	30	15
25	33	3	36	7	39	17	32	10	34	−1	34	12	27	2	35	18	39	2	35	19	39	23	43	27	37	18	48	26
26	38	28	32	25	34	30	37	29	32	27	29	22	29	1	33	25	37	27	34	26	44	31	42	32	39	30	50	36
27	32	28	31	24	34	24	32	25	32	27	29	23	30	25	32	14	33	24	29	10	34	23	37	23	72	22	42	28
28	33	23	27	7	28	18	29	20	30	15	26	12	30	21	25	13	25	17	26	4	31	20	28	20	27	18	37	23
29	33	17	28	17	28	18	26	18	25	14	25	14	27	19	25	14	26	17	24	11	26	18	24	19	28	19	31	21
30	26	9	24	11	24	7	22	9	24	17	20	4	26	15	25	9	23	20	21	0	23	15	26	15	22	15	29	14
31	24	−4	26	−10	26	−3	21	4	24	13	23	−2	22	−12	27	2	26	3	25	−4	28	8	31	6	23	3	32	17
Mns	27.4	8.1	24.8	4.0	25.6	6.2	25.3	8.9	26.2	4.0	21.8	2.4	27.8	4.8	23.8	5.1	25.8	6.5	22.2	1.4	28.7	13.7	28.6	12.4	27.0	9.7	34.2	19.8

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mt. Vernon.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	44	26	37	18	64	44	49	36	40	29	40	29	57	29	40	28	43	33	37	22
2	26	18	35	22	54	36	42	26	29	16	35	16	45	30	28	18	33	23	33	14
3	21	12	26	8	37	26	35	20	17	− 1	20	8	40	26	20	5	23	11	14	− 4
4	25	9	15	2	51	25	27	15	19	− 3	12	0	34	18	25	1	30	8	13	−11
5	27	1	30	2	39	17	33	17	23	− 1	18	2	37	20	27	1	32	8	18	− 4
6	11	− 2	10	− 8	17	11	19	3	2	−11	7	−10	15	9	7	− 8	10	− 1	− 1	−20
7	33	2	12	−15	27	6	29	6	22	− 9	23	− 7	31	6	24	− 6	28	2	11	−22
8	37	20	30	.....	35	15	34	21	30	10	31	14	32	12	33	15	35	24	23	3
9	22	6	27	3	34	18	26	15	11	− 6	21	− 7	35	12	17	− 4	24	6	9	−13
10	39	10	25	−11	35	16	32	12	29	− 5	31	2	53	18	31	5	31	10	26	−12
11	42	34	34	15	46	24	38	25	38	26	39	25	45	20	40	30	38	29	37	21
12	37	34	33	25	52	39	38	36	36	33	36	34	45	25	36	33	37	34	33	28
13	38	30	34	25	49	34	42	33	34	30	34	31	45	38	35	31	38	32	35	28
14	30	26	34	16	35	31	33	29	30	24	32	23	35	31	31	24	32	26	30	19
15	30	26	32	17	33	30	29	27	26	18	29	21	32	28	28	21	29	27	26	8
16	36	30	32	20	39	30	33	28	32	26	31	26	40	28	32	26	32	27	31	21
17	48	35	38	25	58	39	51	32	37	32	35	31	55	31	40	32	47	32	33	30
18	40	28	40	15	57	38	51	31	34	15	25	19	45	33	34	19	37	29	33	11
19	54	32	38	7	57	37	49	31	41	15	46	15	56	30	45	19	49	29	39	8
20	46	26	44	27	46	35	49	29	43	27	40	30	52	32	42	25	46	25	39	30
21	29	18	36	19	35	26	29	20	27	13	30	16	31	22	25	15	25	18	32	12
22	40	13	26	16	37	21	33	15	29	8	29	6	37	17	30	8	35	13	23	1
23	41	29	30	16	52	36	50	29	30	20	34	23	49	20	35	23	37	20	29	12
24	33	20	32	16	44	30	36	22	30	21	29	19	40	23	32	17	31	25	29	14
25	52	20	32	4	54	30	45	28	38	22	41	19	53	22	41	21	44	26	35	10
26	53	35	44	25	61	46	51	28	44	31	41	33	55	30	44	34	47	38	39	29
27	45	29	34	26	49	38	42	32	34	25	39	27	58	28	38	27	41	32	32	25
28	41	24	32	21	45	32	40	24	31	18	34	19	43	26	35	20	39	25	30	12
29	32	23	32	19	44	32	35	29	30	18	30	20	41	26	30	23	32	27	30	10
30	30	16	30	17	38	26	29	20	26	15	28	18	30	26	28	14	27	19	25	12
31	31	13	36	3	36	23	32	14	27	6	31	7	31	18	28	8	27	13	25	− 1
Mean	35.9	21.3	31.3	13.2[a]	43.9	28.7	37.5	23.6	29.6	14.9	31.0	16.4	41.8	23.7	31.6	17.1	34.2	21.9	27.4	9.5

Climatological Data for January, 1910.

DISTRICT No. 6, MISSOURI VALLEY.

J. WARREN SMITH, District Editor.

GENERAL SUMMARY.

About the usual winter weather conditions prevailed during January in the Missouri River Watershed. The first half of the month was generally cold and stormy, while the last half was somewhat warmer than usual and mostly fair.

An extensive area of high barometric pressure covered the northwestern part of the district on the 1st and spread southeasterly on the 2d, 3d, and 4th. It caused heavy snow and very low temperature in parts of the mountain States.

An area of low pressure moved easterly over the lower Rocky Mountain district on the 4th, causing much sleet in the lower Missouri Valley and heavy snow in Iowa and South Dakota. On the 5th another high pressure area moved over the mountains from the Pacific and spreading quickly eastward behind the preceding storm caused the lowest temperatures of the month in the central and eastern States.

A barometric depression moved eastward over the lower Rocky Mountains on the 12th and caused heavy snow in Iowa, South Dakota, and Nebraska and rain in Kansas and Missouri. The rainfall was sufficient to break up the ice gorge in the Mississippi River below St. Louis and some of the gorges in the Kansas and Missouri rivers.

After the 14th the high pressure areas were not well defined and the depressions moved eastward over the northern part of this district, and as a result higher temperatures prevailed and there was less precipitation. The storm that developed over northern Iowa on the 26th caused much higher temperature in Missouri and very high winds in Iowa and Missouri. The wind velocity at St. Louis was 50 miles an hour and considerable damage was reported.

The prevailing wind was from the west in Montana, Wyoming, and Colorado and from the northwest in the other States. The wind movement was below the normal in Nebraska and North Dakota.

The sunshine was above the normal in North Dakota and Montana, but was below the normal in the southern part of the watershed.

Wyoming.—Over the central and western portions of that part of the State that is in District No. 6 the temperature averaged much below the normal, the daily deficiency at some stations being from 6° to 10°. Over the eastern counties the deficiency was not so great and in the extreme southeast the temperature was slightly above the normal. The marked deficiency in temperature was due to a cold wave that overspread the State during the first week of the month. The lowest temperature was −37° and was recorded on the 3d at Lovell, in the lowest portion of Wyoming. The temperature remained generally low during the first half of the month but the last half was much warmer. Stormy weather prevailed during the first 3 days of the month, which gave very heavy snow in parts of the Wind River and Big Horn valleys. At Lander the snowfall on the 1st amounted to nearly 18 inches. After this storm the snowfall was light and scattered. Except where the heavy snow fell during the first 3 days, the precipitation for the month was below the normal. Over the central and eastern portions of the State the ranges were cleared of most of the snow by about the middle of the month, so that conditions were much more favorable for stock than they were at the close of December. With favorable weather conditions during the rest of the winter, it is estimated that the loss of range stock due to unfavorable weather in December and the first part of January will not average over 15 per cent.

Montana.—Mild temperatures and fair weather prevailed during the greater part of January, with about the average wind velocity and sunshine. There was a deficiency in temperature in the extreme southwestern part of the State over the Jefferson, Madison, Gallatin, and upper Yellowstone drainage basins, and a marked excess elsewhere. The temperature was almost continuously much below the normal during the first half of the month, but the excess during the latter half was even more marked. The precipitation was in excess in the extreme southwest where the temperature deficiency was greatest, and there was a marked deficiency in the north where the average temperature was highest. Most of the precipitation fell as snow during the cold period from the 1st to 5th. Light rain fell over most of the district during the period from the 25th to 28th, which is rather a rare occurrence for January.

In some respects the storms prevailing during the first few days of January resulted in the most damaging conditions to railroad interests of any winter storms in many years. The snow that fell during December practically all remained on the ground and was in a loose condition on account of the absence of thawing weather. The heavy fall from January 1 to 3 resulted in an unusual amount of snow on the ground in the southwestern part of the district. The delay in train service began on the 2d, but the greatest trouble was in keeping the roads open after the snowfall had ceased. High winds prevailed from the 5th to the 7th, especially in the upper Yellowstone Valley, and the loose snow was blown rapidly into the cuts, completely blocking traffic for several days. The most serious blockade was between Livingston and Billings. Near Gray Cliff the Northern Pacific tracks were covered to a depth of 12 feet or more for a distance of 1 mile. It required a large force of men working about 60 hours to open the road at this point. A serious wreck of a passenger train on the Great Northern road was caused by a snowdrift near Oxford, on the 6th. Traffic on the Montana railroad, between Harlowtown and Lewistown, was practically suspended from the 4th to the 8th, due to the constant drifting of the snow into the cuts.

Gerald Walker, a homesteader, lost his life in a severe storm near Judith Gap on the 1st. The deep snow on the ranges from the 1st to the 15th resulted in great suffering to live stock, although the loss to stockmen was principally in the added expense of feeding cattle and sheep, due to the inaccessibility of the ranges. In most of the mountain districts of the State there is sufficient snow to insure a normal flow of water in most streams. The only notable exception to this is in the main range at the headwaters of the Milk River, Sun River, and Marais River drainage basins, where there is a deficiency in the snowfall.

The following are extracts from reports of engineers in Montana regarding the effect of weather conditions during the month on the work under their supervision:

HUNTLEY, MONT. PROJECT.

From the 15th to the end of the month the weather was quite favorable and warm. No repair work of any nature was attempted during the month, however, owing to the depth of frost in the ground.—*E. B. LeClaire, Huntley, Mont.*

SUN RIVER PROJECT.

The weather was exceptionally mild, with the exception of the first four days, which were stormy and quite cold, thus for the most part affording the best possible conditions for engineering and construction work on the Sun River Project in this locality. Many settlers on the project were engaged in plowing the latter part of the month, which is somewhat unusual during this season and the ground was in a very suitable condition for this work and also for earthwork excavation.—*F. F. Smith, Fort Shaw, Mont.*

MILK RIVER PROJECT.

During the first half of the month the weather was quite cold, and on account of the frozen condition of the ground no grading work was possible in January. Conditions were favorable to other construction work, and considerable concrete was placed at such times as it was considered safe to undertake this work.

GREAT NORTHERN RAILWAY.

During the first quarter of the month the weather caused no delay in construction work, excepting in earth and hard pan excavation which is always rendered more difficult by low temperatures. During the second quarter the temperature was above zero most of the time, and about half the days were clear, conditions being excellent for grading work. There were six days of rain and heavy snow in the mountains during the third quarter, and much of the snow was melted by the rain and warm weather. The stormy conditions interfered with grading operations, and caused two snow slides, one of which came down at a point where a cut is being made. The work on this has been abandoned till thawing weather begins. During the fourth quarter there were 3 days of rain and 4 with snow, with temperatures ranging from 17° to 36°. These conditions were favorable to snowslides, several of which occurred, but only indirectly caused delays in grading work. One of these slides covered the main line for some 300 or 400 feet to a depth of 50 feet, making it necessary for contractors to come to the aid of the operating department in clearing the main line in order that traffic might be resumed.—*Geo. B. Eddy, Engineer in Charge, Summit-Java Revision Work, Fielding, Mont.*

North Dakota.—The weather during January was favorable for outdoor work, for railway traffic, and for the comfort of live stock. The mean temperature was 10.4°, or 1.1° higher than the normal. The temperature was below the normal during the first half of the month, and during the first 6 days the temperature was exceptionally low. During the last half of the month the temperature averaged considerably above the normal, and during the last 3 days it was unseasonably high. The precipitation was somewhat unevenly distributed geographically, the heaviest being recorded in the extreme western part of the district. The greatest portion of the precipitation fell in the form of snow. The first 7 days were stormy, and the amounts in many instances being quite heavy. The average precipitation for the district, 0.42 inch, was 0.14 inch below the normal. The average depth of snowfall was 4.9 inches. The wind movement was below the average and there was very little drifting of snow. The sunshine was slightly above the normal.

South Dakota.—Stormy, unfavorable, and unseasonably cold weather, with temperatures frequently below zero, prevailed until the 15th, but it was milder with the temperature almost continuously above the normal after that date. The average temperature for the State, especially in the counties east of the Missouri River, was slightly below the normal, although at most of the regular Weather Bureau stations which have the longest records the average was above the normal. The average precipitation, 1.23 inch, was about 0.60 inch above the normal, and was the greatest January fall in 21 years, with one exception. The snowfall averaged 13.4 inches and was heaviest in the Black Hills district. Snows occurred frequently and the precipitation was nearly all in this form. The precipitation was general and the snowfall was heavy in places on the 2d, 4th, 12th, and 17th, and moderate to heavy snow fell in the western counties on the 26th and 29th. A general and dry snow occurred on the 12th, the amount in most counties being moderate to heavy. High wind following this snow caused the railroads much trouble and delay in the operation of trains, especially in the eastern counties and the Black Hills district. The gathering of corn yet remaining in the fields at the close of December was necessarilly slow and tedious, owing to the snow in the fields and the bad wagon roads due to drifting.

Live stock on the open ranges in the western counties suffered, an unusual amount of feeding from granary and stack was necessary, and where hay was scarce and the stock had to depend largely upon dry range grass, there was considerable loss. Cold weather, snow, frozen ground, and the bad condition of the wagon roads caused much delay in the work being done on the United States Reclamation Project at Belle Fourche, S. Dak., and municipal work, such as constructing sewers, etc., in the eastern portion of the State was prosecuted with difficulty. The poor condition of the roads caused a material reduction in the receipt of grain at the elevators. Mining interests in the Black Hills district were hindered by the heavy snow. Sleighing was possible during practically all the month. About the middle of the third decade damage was done to telegraph and telephone wires in the eastern part of the State by rain and mist freezing to the wires and followed by high winds. There was considerable foggy weather, rather less than the normal sunshine, and less than the usual amount of strong wind.

Colorado.—During the first few days of the month the weather was somewhat warmer than usual, and from the 10th to the close of the month mild temperatures obtained. Temperatures below zero were common from the 4th to 9th, with the coldest weather on the 6th. The precipitation was rather unevenly distributed. In the eastern counties most of the precipitation occurred in the first 4 days, with light scattered amounts during the last half of the month. The average precipitation was slightly below the normal and the sunshine was very close to the normal. The snowfall was less than the normal in the mountains of the South Platte Basin. The warm spell at the beginning of the month caused a general settling of the snow and some melting, but with the return to normal temperature conditions much of the snow was solidly frozen, and is now in a condition favorable to late melting. In many places high winds caused large well-packed drifts in the gulches.

Nebraska.—January, 1910, in Nebraska was nearly a normal month. The coldest period was during the first 9 days, when minimum temperatures below zero were common. The rest of the month the temperature was about, or slightly above, normal. The precipitation, 0.69 inch, was slightly above normal and most of it occurred in the 3 storms of the 4th, 12th, and 29th. On the 12th rain fell at many southern stations. Principally because of the heavy snowfall in December, 1909, the ground was covered with snow practically all the month in the eastern counties and until the 15th or 20th in the western. The sunshine was below the normal, and the average wind movement, 9.1 miles an hour, is about 0.4 mile below the average for January for the past 16 years.

Iowa.—The first 10 days of January were unseasonably cold, but the remainder of the month, with the exception of 2 or 3 days, was mild, so that the average temperature for the month varied but slightly from the normal. The 6th and 7th were the coldest days. There were only 2 or 3 days in the month on which the minimum temperature was above the freezing point. The precipitation was above the normal, except in the west-central districts where there was a slight deficiency. Most of it fell in the form of snow during 2 storms, one on the 4–5th and the other on the 12–13th. The fall of snow during these 2 storms was unusually heavy and caused much delay in railroad traffic, which, together with the severe cold weather during the early part of the month, came very near causing a fuel famine in this State. In many instances the railroad companies abandoned all freight traffic, except coal, and cleared the snow from the tracks as rapidly as possible, and even then the coal had been exhausted in many towns before a new supply could be delivered. The ground was thoroughly covered with snow during the entire month in the northern and most of the month in southern districts, and as a result fall grains suffered no injury from the effects of the cold weather.

Kansas.—The month was cold and wet, with the sunshine somewhat below the normal. Cold weather as in December continued through the first decade of January, the lowest temperature of the month occurring on the 5th in the western counties and on the 6th in the eastern. The temperature moderated after the 10th and was above the normal from the 15th to 28th. Nearly all the precipitation fell during the first 15 days. The

precipitation was above the normal in the Blue, Kansas, and Marais des Cygnes valleys, and in the larger part of the Smoky Hill Valley. The country roads were nearly impassable most of the month and railroad transportation was seriously impaired, as all trains were delayed more or less by the weather and mails were quite late. Building and farm operations were stopped. Wheat generally shows little effect of adverse weather, although in some localities it has been badly injured and the roots have been worked out of the ground by frost. It has been quite impossible to gather the corn still in the fields. Young alfalfa has been injured and peaches are generally reported killed.

The Blue, Republican, and Solomon rivers remained frozen until the 27th, and the Smoky Hill River until the 25th. The ice in the Kansas and Marais des Cygnes rivers was broken up on the 13th by the rain of the 12th and dangerous gorges were formed. All of the bridges across the Kaw and the Wakarusa rivers in Shawnee and Douglas counties were badly injured, except 5 Kaw bridges in Topeka and 1 in Lawrence, which were saved by the liberal use of dynamite. It is estimated that it will require $30,000 to repair the bridges in Shawnee County alone. One ice gorge plowed out the ground and broke some of the water mains leading to the city water works, and made it necessary to use the river water direct. The ice gorges caused the flooding of much lowland and shut the Atchison, Topeka and Santa Fe Railway out of the use of its tracks between Topeka and Lawrence for 2 weeks.

Missouri.—The month opened mild, but a cold wave spread over the State on the 3d–4th and cold weather prevailed until the 11th. The mean temperature was near the normal, but probably because of the irregularity in snow covering the temperature varied a good deal at even near-by stations. The precipitation was in excess in the Grand and Missouri basins, but was deficient in the Osage and Gasconade valleys. The total snowfall ranged from less than 1 inch in parts of the Ozark region to over 10 inches in the northwestern counties. The snow remained on the ground most of the first half of the month in the Grand and Missouri valleys. There was less sunshine than usual and the humidity was slightly above the average.

The weather was generally unfavorable for building and other outdoor occupations. The transportation and distributing lines of business were interfered with to some extent during the first half of the month by snow and sleet, especially over the more northern part of the State. Navigation continued closed during the first 15 or 20 days of the month.

TEMPERATURE.

The temperature was slightly above the normal in the extreme northern part of this district and in the extreme lower part of the Missouri Valley, and it was about the normal in most of the central part of the district. The highest temperature was 78° at Warsaw, Mo., on the 25th, while maximum temperatures above 60° were recorded in all of the States except Iowa and North Dakota. The lowest temperature was −37° at Lovell, Wyo., on the 3d. The temperature was below −30° in Montana, North Dakota, South Dakota, and Iowa, and below −20° in the other States.

PRECIPITATION.

The precipitation was generally above the normal in the eastern part of this district and below the normal in most of the western part. It was the greatest in South Dakota in any January, with one exception, in 21 years. The precipitation was mostly in the form of snow and the ground was well covered by snow, except in the southern part of the district. The greatest monthly precipitation was 4.59 inches at Dumont, S. Dak., and the greatest amount in any 24 consecutive hours was 2.24 inches at Norris, Mont. The greatest monthly snowfall was 43.0 inches at Grayling, Mont.

RIVERS.

Most of the rivers in the upper part of the Missouri Watershed remained frozen throughout the month. The ice began breaking up in the Kansas and other rivers in Kansas on the 13th and caused considerable damage in Shawnee and Douglas counties.

An ice gorge formed in the Mississippi River below St. Louis in December, and by January 12 a solid gorge extended much of the way from Chester, Ill., to above St. Louis. This gorge dammed the water back as far up the river as Grafton, Ill., and caused an average river stage of 18.3 feet for St. Louis for the month. On the 12th heavy rain and high temperature softened the ice and on the 13th it started moving. The water rose steadily as gorges were reformed below the city until it reached a stage of 31.9 feet at 1:00 a. m. on the 14th. It was above the flood stage but a few hours, but the heavy ice crowded the boats in the local harbor so far ashore that when the water fell most of them were left on the levee. Damage was done to nearly every water craft and the large excursion steamer *City of Providence* was so injured that in the attempt to float the boat she filled and sank. The loss on this boat is estimated at about $65,000, while the general damage is reported to be the greatest experienced in this harbor in recent years.

While part of the Missouri River was open during much of the month it was practically closed in the vicinity of Kansas City until the 26th. When the gorges moved out of the Kansas River on this date further damage was done to bridges between Kansas City and Topeka. The government boat *Atlanta* was sunk at Missouri City, in the Missouri River, about 13 miles below Kansas City. The loss was about $8,000. The work on the Terminal Railway piers at Kansas City was interrupted by floating ice that made it impossible to keep barges in place and at the end of the month this work had not been resumed.

MISCELLANEOUS.

The weather was generally favorable for winter grains and grass fields and for fruit, except some damage to wheat and alfalfa in Kansas by lack of snow covering, and to peaches in the same State by the low temperature. The horticulturist at the Missouri Experiment Station reports peach buds practically uninjured.

Range stock had to be fed much more than usual and there was considerable loss reported. The following reports from the superintendents of Indian agencies show the general condition of range stock:

Wind River Agency, Wyoming.—The weather has been unprecedented in many respects. The month began with about a foot of snow on the ground, and on the 2d nearly 20 inches more fell. This did not perceptibly melt until near the close of the month when the amount on the ground was reduced to about 8 inches. Stock of all kinds has suffered very much, and the loss in cattle, horses, and sheep will probably exceed that for any previous year since 1885.

Cheyenne River Agency, South Dakota.—During the first half of the month the weather was cold and stormy and high winds and snow prevailed, causing a slight loss of cattle on the range, and having a weakening effect on surviving animals. The weather during the last half was clear and mild, causing the snow to melt, and making it possible for the range cattle to find forage.

Crow Creek Agency, South Dakota.—The heavy fall of snow made it very bad for cattle as they could not get enough to eat. The horses fare all right as they will dig for a living. We have not lost any cattle to speak of yet (January 29), but if the bad weather with deep snow continues we will have to sell one-half of the cattle on the reservation before spring.

Rosebud Agency, South Dakota.—The heavy snows have made it extremely difficult for cattle to secure forage. This condition was aggravated by thawing and freezing which resulted in an almost unbreakable crust on the top of the snow.

Some work was possible on most of the United States Reclamation projects in this district. The Shoshone Dam at the Wyoming Shoshone Project was completed at 2 a. m. on the 16th. This is reported to be the highest storage dam in the world and will allow for the irrigation of approximately 132,000 acres of land near Cody, Wyo. This dam is 85 feet long at the bottom and 200 feet at the top. It is 328 feet high. It is estimated that it will take two years to fill the reservoir.

Railroad traffic was greatly interfered with in nearly all parts of the district during the first part of the month. In addition to the reports made by the section directors, the following are extracted from special letters from different railway and other officials:

Engineer, Missouri District, Chicago, Burlington and Quincy Railroad.—The weather during the month did not have any particularly favorable or unfavorable effect upon the interests under my supervision.

Chief Engineer, Kansas Railway Construction Company.—The weather conditions have not had any special effect unless it might be an indirect one that the farmers in western Kansas and Nebraska consider the heavy snowfall as practically assuring a large wheat crop and will have a favorable bearing on all crops.

Chief Engineer, Missouri, Kansas and Texas Railway.—We were compelled to suspend our work getting sand for filling our North St. Louis yards on account of running ice. It was too cold, also, to make concrete foundations with convenience. Otherwise the weather was very good so far as our work is concerned.

General Manager, St. Louis Southwestern Railway.—The weather had an unfavorable effect upon our business, because of its severity. Outdoor work was delayed and in consequence less loading and greater delay in unloading shipments occurred. The moisture affected our roadbed somewhat.

Superintendent, Terminal Railroad Association, St. Louis.—The inclement weather that existed during December and the early part of January seriously interfered with and delayed the business, not only of our companies, but of all railroads in this territory. The snow caused switches to operate with difficulty, and the freezing rain, particularly on January 4, was very annoying. The reliable forecasts which we have been able to procure from your Bureau have been particularly beneficial to us.

Chief Engineer, Wabash Railroad.—The severe cold weather of the month was particularly hard on railroads as traffic can not be moved at anywhere near the same speed as it can in good weather.

Tait-Nordmeyer Engineering Company.—The month of January was fairly good for carrying on building work, especially concrete work. Work under our supervision in Colorado has not progressed as well as in Missouri and Illinois, owing to a little colder weather.

Engineer, Bell Telephone Company of Missouri.—We have not observed anything unusual in the effect of the weather conditions on our outside construction.

Vice-President, Simmons Hardware Company.—The weather during the month of January, as a whole, had a favorable effect upon our business, as the generally open weather and the lack of heavy precipitation accompanied by snowstorms made it possible for the farmers to come to town and do business with the retail dealers, who are our customers. On the other hand, business men were hampered a good deal during December by the very heavy snowstorms and the wet weather, which kept the farmers at home and affected the transportation of merchandise by the railroads and made it impossible for the farmers to gather the corn still remaining in the fields.

Department of Civil and Irrigation Engineering, Fort Collins, Colo.—For several years we have had very mild winters and have been troubled with destructive insects the following summers. It is hoped that the severe winter so far will have killed the worst of the insect pests.

In addition to the reports of snow in the mountain districts by the section directors the following by Mr. W. B. Freeman, District Engineer of the United States Geological Survey, will be of value:

In the vicinity of Denver there were no heavy snowstorms during the month, but the weather was uniformly cold, so that there was very little melting of the December snows.

On the 31st of January I went up on the watershed of the Geneva Creek tributary of the South Platte to an altitude of about 10,000 feet. The ground was partly bare and the snow was more or less drifted in spots. I should judge that the average depth of snow on the surface between altitude of 8,000 and 10,000 feet was only about 2 inches. On the northern slope of the hills the average depth was considerably greater than this, but on the southern slopes there was practically no snow. There is of course an abundance of snow above the altitude of 11,000 feet.

I am of the impression that there was a much heavier snowfall on the headwaters of the Big Horn. I spent 3 weeks of December and 3 weeks of January in Montana and the snowfall was greater on the 3 headwater tributaries of the Missouri River, as far as I could learn, than it had been for a number of years. I look for the streams during 1910 to be unusually high in that section, and also in the Big Horn drainage.

On the North Platte and South Platte drainage area the waters during 1909 were the highest which we have had for some time. There is not near as much snow on the ground now as there was at this time last year on this drainage. But on account of the heavy December snowfalls in the high mountains, and from present indications I expect that the season of 1910 will be second only to 1909 in magnitude of run-off for the past 5 years.

The State game warden of South Dakota states that many reports were received of the death of prairie chickens, grouse, and quail, because of their inability to secure food.

One of the most important engineering problems confronting the States bordering the Missouri River is the drainage of the bottoms or lowland districts near the river. A contract has just been let for the construction of a ditch in Woodbury County, Iowa, for $80,000 which will be of great benefit to that county but will complicate drainage matters in Monona County, the next one south.

The Governor of Missouri states that there are over 3,000,000 acres of swamp or flooded land in that State.

A large drainage project has recently been completed in southwestern Bates County, Mo., on the lower Marais des Cygnes and upper Osage rivers that is expected to drain 41,350 acres in that county. These lands have been subjected to spring overflows and it is hoped to prevent the floods. The district is 24 miles long and from 2 to 6 miles wide. The main new channel is 23.5 miles long and takes the place of the old river channel 23 miles in length. The new channel is 64 feet wide for the first 19 miles and 90 feet wide the rest of the distance. The fall is 26 inches per mile the entire length of the ditch. Twenty-two miles of lateral ditches are being cut. The cost of this main ditch is $370,000.

TABLE 1.—*Climatological data for January, 1910. District No. 6, Missouri Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days. .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Arapahoe	Fremont		2																	David Malloy.
Barnum	Johnson	5,500	5								0.75		0.50	8.0	2	28	2	1	w.	Thomas Freegaurd.
Basin	Big Horn	3,862	11	6.8	− 9.8	41	24	−34	3	44	0.23	− 0.07	0.13	4.5	2	16	6	9	nw.	O. J. Robertson.
Bennett	Carbon		2																	Chas. C. Young.
Big Creek Station	Albany					48[b]	24	−17[b]	13	41[b]	0.42[b]		0.13[b]	11.9[b]	6[b]	8[b]	8[b]	7[b]	w.	U. S. Forest Service.
Casper	Natrona	5,101	2	25.8		51	23	−26	3	46	0.25		0.20	2.5	2	18	1	12	sw.	M. C. Cook.
Cheyenne	Laramie	6,088	39	26.8	+ 1.2	58	24	−10	3	45	0.29	− 0.11	0.14	2.9	5	9	14	8	nw.	U. S. Weather Bureau.
Chugwater	do	5,282	9	25.9	− 1.8	60	24	−21	3	44	0.30	− 0.30	0.20	3.0	2				w.	George Milne.
Clark	Big Horn	4,320	4	24.0		55	31	−17	3	48	0.42		0.25	8.0	2	10	15	6	w.	Chas. A. C. Snow.
Cody	do	5,000	3	21.7		56	31	−24	3	39	0.30		0.30	3.0	1	16	15	0	sw.	F. A. Fish.
Crystal Lake Reservoir	Laramie	6,900	1			53	24													Cheyenne City Engineer.
Dome Lake	Sheridan	8,821	2	16.4		43	23	−20	2	45	0.90		0.40	9.0	3	6	22	3	sw.	Chas. Hidlay.
Douglas	Converse	4,793	1	25.5		53	24	−25	3	33	0.69		0.23		4					Henry C. Miller.
Dubois	Fremont	6,909	3	17.8		48	23†	− 22	3	41	1.23		0.90	12.5	3	5	16	3	nw.	Dr. F. H. Welty.
Eaton's Ranch	Sheridan	4,600	5	28.3		65	31	−13	3	54	1.50		0.70	15.0	5	26	5	0	w.	F. A. Eaton.
Echeta	Crook	4,200	1								0.20		0.10	2.0	2	23	3	5	n.	M. R. Hunter.
Elk Mountain	Carbon		5								1.26		0.43	25.0	6					Wm. Richardson.
Encampment	do	7,322	1	24.0		48	23	−12	5	29	0.60		0.20		7	14	9	7	sw.	U. S. Forest Service.
Ervay	Natrona		1	30.0		44	22	−18	3	41	0.50		0.21	7.0	4	20	7	4	sw.	Frank Jameson.
Fort Laramie	Laramie	4,270	32	22.0	− 3.0	62	31	−16	3	48	0.28	− 0.17	0.25	7.2	3	19	9	3	w.	John Hunton.
Fox Creek Station	Albany			16.6		41	23	−19	6	38	0.64		0.51	6.4	3	22	3	6	w.	U. S. Forest Service.
Gillette	Crook	4,546	3	21.2		45	24	−16	3	46	0.50		0.10	5.0	6	15	11	5		S. D. Perry.
Granite Canyon	Laramie	7,337	5								0.10		0.10	1.0	1					Lee A. Boyce.
Hunters' Station	Johnson	8,000	4	18.8		47	23	−19	4	48	0.47		0.21	9.0	5	28	1	2	w.	U. S. Forest Service.
Hyattville	Big Horn	4,632	11	19.2	− 4.7	49	23	−25	3	39						14	9	8	w.	Wm. Booth.
Kirtley	Converse		6	20.9	− 1.3	48	28	−16	3	42	0.78	+ 0.28	0.40	6.5	4	19	9	3	nw.	D. M. Zum Brunnen.
Kirwin	Big Horn	9,187	2	11.7°		40°	23	−21°	6	42°	2.65°		1.40°	26.5°	7°	10°	10°	8°	w.	C. L. Tewksbury.
Knowles	Crook		1								0.74		0.21	8.7	6					G. A. Knowles.
Lander	Fremont	5,372	18	11.8	− 5.6	50	24	−32	3	38	2.08	+ 1.63	1.72	20.6	6	11	15	5	n.	U. S. Weather Bureau.
Laramie	Albany	7,188	19	24.0	+ 0.7	50	23†	−13	5	37	0.19	− 0.07	0.14	2.0	3	14	13	4	sw.	University of Wyoming.
Leo	do	6,878	9	21.0	− 0.8	51	11	−15	5	44	0.84	+ 0.21	0.23	9.0	10	12	7	12	sw.	C. A. Cowdin.
Lolobama Ranch	Big Horn	7,052	6	13.9	− 5.0	44	23	−25	4	39	0.45	− 0.18	0.35	11.0	2	9	18	4	w.	Mary E. Painter.
Lovell	do		5	10.6		45	24	−37	3	42	0.27		0.18	5.5	3	12	10	9	n.	R. Fred Harrison.
Lusk	Converse	5,007	20																	D. E. Goddard.
Luther	Laramie		1	24.1		57	25	−14	3	35	0.10		0.10	3.0	1				nw.	Henry D. Colburn.
Manville	Converse	5,050	1								0.45		0.10	4.0	5	21	7	3	nw.	C. A. Sherman.
Moorcroft	Crook	4,211	7	17.2	− 2.2	46	24	−30	3	48	0.40	− 0.06	0.20	4.0	3	23	8	0		James K. Somers.
Moore	Albany	6,000	9	28.1°	+ 0.3	55°	24†	−13°	4	62°	0.21°	− 0.17	0.18°	2.4°	3°	6°	17°	5°	w.	Edwin Moore.
Newcastle	Weston	4,319	3	21.0		51	24	−21	3	40	1.85		0.30	18.5	11	10	14	7	nw.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	4	22.1	− 3.9	51	23	−25	3	40	0.32	− 0.05	0.24	11.0	5	23	0	8	sw.	U. S. Reclamation Service.
Phillips	Laramie	4,900	7	28.4	+ 0.2	64	24	−15	3	37	0.25	− 0.32	0.20	2.5	2	22	5	4	w.	Mrs. Arthur Rugg
Pine Bluff	do	5,038	9																	Sumner Miller.
Powell	Big Horn	4,376	3	14.4		49	24	−28	3	40	0.03		0.03	0.5	1	17	13	1	w.	U. S. Reclamation Service.
Rawlins	Carbon	6,748	8	23.6	+ 0.7	46	24†	− 9	5	33	0.18	− 0.36	0.05	2.0	6	15	10	6	w.	C. J. Ehrenfeld.
Riverton	Big Horn	4,969	2																	Fred L. McGiffin.
Saratoga	Carbon	7,300	12	23.6	+ 2.4	51	23	−14	13	40	0.36	− 0.41	0.13		3	12	10	8	e.	Saratoga & Enc'pm'nt Ry.
Sheridan	Sheridan	3,790	15	19.4	0.0	55	24	−27	3	44	0.31	− 0.52	0.29	6.7	3	9	17	5	nw.	U. S. Weather Bureau.
Shoshone Dam	Big Horn	5,385	4	27.0°		56°	31	−29°	3	44°	0.63°		0.36°	7.0°	2°	11°	18°	1°	w.	U. S. Reclamation Service.
Soldiers Home	Johnson	4,635	18	26.0	+ 2.8	66	24	−12	3	47	0.40	− 0.01	0.30	4.0	2	8	21	2	nw.	Geo. L. Courtney.
South Pass City	Fremont	7,873	8	12.1		39	23	−31	6	39	1.31		0.79	11.8	9	11	11	9	sw.	John Sherlock.
Thermopolis	do	4,350	6	15.9		52	24	−35	3	45	0.32		0.30	4.0	2	24	4	3	sw.	A. L. Duhig.
Upton	Weston		1																	G. E. McPherren.
Valley	Big Horn	6,500	1								1.55		1.30	26.5	3	16	13	2	w.	Jas. L. McLaughlin.
Verona	Sheridan		1																	O. A. Roode.
Wiley	Big Horn	5,375	1	22.8		54	23	−25	3	33	0.30		0.30	3.0	1	21	8	2	w.	C. D. Marshall.
Wyncote	Laramie	4,307	3	24.0		60	24	−14	3	47	0.10		0.10	2.0	1	17	13	1	nw.	U. S. Reclamation Service.
Yellowstone Park	National Park	6,300	22	15.8	− 1.8	42	24	−15	6	29	1.90	− 0.34	0.94	22.0	16	3	8	20	s.	U. S. Weather Bureau.
(1) Fountain Hotel	do	7,220	4	9.9		40	23†	−36	5	47	4.19		2.97		8	7	11	12	w.	U. S. Army.
(2) Grand Canyon	do	7,900	3					−35	4		3.07		1.49	30.0	6	4	5	22	w.	Do.
(3) Lake Hotel	do	7,733	6	7.4		38	31	−36	3	42	3.10		0.99	42.0	17	9	13	9	s.	Do.
(4) Norris Gey. Basin	do	7,525	6	7.2		37	23	−29	6	61	3.51		2.00	46.0	10	14	1	16	w.	Do.
(5) Riverside	do	6,500	4	10.8		42	31	−32	5†	44	2.63		1.02		9	4	14	13	sw.	Do.
(6) Soda Butte	do	7,000	5	12.0		42	31	−33	4	43	1.90		0.55	22.5	8	13	9	9	w.	Do.
(7) Sylvan Pass	do	7,000	3																	Do.
(8) Thumb	do	7,772	4	9.8		38	31	−31	6	37	4.83		0.95	54.0	13	13	10	8	n.	Do.
(9) Tower Falls	do	6,250	1	16.6		48	31	−17	13	42	2.29		1.30	20.5	6	12	12	7	sw.	Do.
(10) Upper Gey. Basin	do	7,395	6								2.81		2.30		5	18	1	12	sw.	Do.
Montana.																				
Adams	Dawson		2	17.8		42	22	−19	3	45	T.		T.	1.2	0	13	9	9	nw.	W. B. Ennis.
Adel	Cascade	5,200	11	22.3	+ 0.2	49	31	−16	3	42	1.30	+ 0.29	0.40	13.0	4	12	0	19	w.	Bessie F. Burch.
Agricultural College	Gallatin	4,700	12	18.2	− 3.3	47	22†	−22	3	30	0.82	+ 0.05	0.55	9.0	7	5	18	8	sw.	J. L. McCraw.
Augusta	Lewis & Clark	4,371	12	24.2	+ 2.0	57	23	−23	3	38	0.26	− 0.40	0.10	2.0	3	22	6	3	w.	C. C. Covington.
Babb	Teton	4,461	4	25.8		49	28	−20	2	35	0.70		0.40	7.0	3	16	7	8	sw.	U. S. Reclamation Service.
Bald Butte	Lewis & Clark	6,500									0.70		0.29	14.7	8	5	7	19		Matt W. Alderson.
Big Creek	Park	5,800	2								1.53		0.85	15.3	5	4	18	9	w.	Peter Vink.
Big Timber	Sweetgrass	4,072	5																	W. H. Patterson.
Big Timber Creek	do										0.73		0.35	11.0	4	18	7	6	w.	Do.
Billings	Yellowstone	3,115	15	19.5	− 4.5	48	24†	−22	3	41	0.37	− 0.37	0.20		3				w.	U. S. Weather Bureau.
Boulder Noursery	Jefferson	4,920	14	19.9[b]	− 0.1	46[b]	31	−12[b]	5	42						7[b]	15[b]	1[b]		U. S. Forest Service.
Bowen	Beaverhead	6,060	4	6.5		38	31	−35	3	45	0.69		0.21	10.8	6	7	17	7		B. B. Lawrence.
Bridger	Carbon	5,664	2	22.4[a]		50[a]	24	−17[a]	4	44	0.25		0.18	7.0	2	8[a]	13[a]	9[a]	s.	L. E. Gard.
Broadview Exp. Station	Yellowstone		4	17.9		49	31	−27	3	39	0.85		0.60	12.0	3	9	19	3	w.	Thos. S. Hunt.
Busby	Rosebud		5	16.8		51	24	−32	3	49	0.65		0.15	8.8	8	9	13	9	w.	G. A. Linschied.
Busteed	Sweetgrass		2	24.0		54	24	−18	4	33	0.95		0.52	14.9	6	9	18	4	w.	Thos. H. Busteed.
Butte	Silver Bow	5,716	15	21.3	− 2.1	50	22†	−16	3	30	0.70	− 0.14	0.35	7.0	5	12	10	9	sw.	J. R. Warton.
Canyon Ferry	Lewis & Clark	3,644	12	15.1	− 5.1	53	24	−32	3	43	0.54	+ 0.07	0.23	11.0	4	13	11	7	nw.	A. C. Pratt.
Cascade	Cascade	3,361	5	29.6		58	23	− 9	2†	29	0.59		0.31	5.5	6	13	14	4	sw.	E. E. James.
Cataract Creek	Jefferson	7,000									0.84		0.35	13.3	9	9	17	5	nw.	Fred Gerdes.
Chessman Reservoir	Lewis & Clark	5,275	2	19.2		48	23	−27	3	41	1.12		0.40	9.7	6	16	5	10	w.	Chas. D. Schmidt.
Chester	Chouteau	3,140	7																	B. B. Weldy.
Chinook	do	2,502	10																	Thos. O'Hanlon Co.
Chouteau	Teton	3,810	6	29.8[d]		68[d]	21	−10[d]	3	47	0.05		0.05	0.5	1	7[d]	6[d]	14[d]		H. Van De Riet.
Clear Creek	Chouteau		4																	Cortez Sedgwick.
Clemons	Lewis & Clark	4,672									0.15		0.07	2.4	5	7	11	13	sw.	Frank Eberl.
Copper	Meagher		5								1.10		0.35	13.5	9	12	11	8	w.	Orville Harris.
Crow Agency	Rosebud	3,041	28	19.0	+ 0.8	51	24	−28	3	49	1.02	+ 0.29	0.30	10.2	5	17	6	8	w.	F. E. Server.
Culbertson	Valley	1,927	8	10.2		42	23	−22	3	45	0.40		0.20	4.0	2	11	14	6	nw.	G. H. Coulter.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Cont'd.																				
Cut Bank	Teton	3,700	12	24.0	+ 4.8	53	23	−12	3	39	T.	− 0.60	T.	....	0	19	9	1	w.	Chas. N. Thomas.
Decker	Rosebud	3,400	6	6.8	.....	40	28†	−35	1	32	0.20	.....	0.20	0.2	1	....	....	....	.....	Adam Anderson.
Delpine	Meagher	5,000	....	....	.....	....	....	....	....	....	0.47	.....	0.40	10.2	3	6	18	7	w	T. B. Holliday.
Denton	Fergus	....	2	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	R. M. Chamberlain.
Dillon	Beaverhead	5,147	13	19.8	− 3.8	51	24	−21	3	37	1.19	+ 0.29	0.40	11.7	9	8	13	10	sw.	J. E. Monroe.
Dirty Creek	Meagher	6,000	....	....	.....	....	....	....	....	....	0.76	.....	0.43	16.1	4	17	6	8	nw.	Lewis Cameron.
Dry Creek	Broadwater	5,500	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	J. C. Stuart.
Dry Wolf Camp	Cascade	6,000	....	....	.....	....	....	....	....	....	1.00	.....	0.42	19.6	9	15	9	7	sw.	Mrs. R. J. Eveleth.
East Gallatin River	Gallatin	6,000	....	....	.....	....	....	....	....	....	0.96	.....	0.28	13.5	8	9	11	11	w.	John Eberhart.
Ekalaka	Custer	....	10	22.1	+ 2.0	50	24	−23	3	55	0.43	− 0.32	0.09	24.0	7	8	19	4	w.	Wm. Freese.
Elkhorn	Jefferson	6,576	1	....	.....	....	....	....	....	....	0.88	.....	0.26	19.4	9	9	10	12	sw.	James Heagan.
Evans	Cascade	4,900	3	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	H. Tharsher.
Fallon	Custer	2,208	6	13.2	.....	47	31	−31	3	44	0.29	.....	0.15	.....	2	18	6	7	w.	Mrs. A. C Gifford
Family‖	Teton	3,950	1	25.8	.....	57	23	−13	3	39	0.02	.....	0.02	1.5	1	7	21	3	w.	U. S. Reclamation Service.
Fish Creek**‖	Silver Bow	8,500	....	15.4	.....	42	23	−22	2	29	0.95	.....	0.55	23.5	2	21	8	2	w.	O. B. Tilton.
Fish Tail Creek	Carbon	5,000	....	....	.....	....	....	....	....	....	0.61	.....	0.40	12.5	3	19	8	4	w.	O. E. Haskin.
Flathead Creek	Gallatin	6,000	....	....	.....	....	....	....	....	....	1.32	.....	0.27	12.3	7	8	8	15	nw.	L. G. Brown.
Forsyth	Rosebud	2,514	4	21.1[a]	.....	59[a]	23	−30[a]	3	45[a]	0.75	.....	0.30	7.0	4	9[a]	10[a]	11[a]	w.	W. F. Clarke.
Fort Benton	Chouteau	2,630	30	26.2	+ 7.8	50	22†	− 9	3	32	0.44	− 0.28	0.34	2.0	2	18	7	6	sw.	Jere Sullinav.
Fort Shaw	Cascade	3,500	22	27.6	+ 6.2	57	31	−18	3	37	0.05	− 0.56	0.03	0.9	2	20	8	3	sw.	U. S. Reclamation Service.
Fort W. H. Harrison‖	Lewis & Clark	4,004	6	15.6	.....	62	24	−29	3	47	....	.....	....	....	....	17	3	11	w.	Post Hospital.
Foster	Yellowstone	....	....	19.9	.....	53	31	−36	3	50	0.35	.....	0.15	3.1	4	15	8	8	sw.	E. K. Bowman.
Garneil	Fergus	5,500	1	19.3	.....	46	31	−20	3	36	0.42	.....	0.30	14.0	3	9	11	11	nw.	Thos. E. Scally.
Glendive	Dawson	2,069	20	16.0	+ 2.6	46	31	−23	3	39	0.20	− 0.54	0.07	.....	4	16	12	3	w.	W. B. Walker.
Goldbutte	Chouteau	....	3	20.3	.....	47	23†	−14	2	36	0.24	.....	0.15	4.0	4	11	13	7	sw.	J. T. Berthelote.
Graham	Custer	....	4	21.3	.....	50	24	−22	3	42	0.61	.....	0.28	8.5	6	7	14	10	nw.	J. S. Rue.
Grayling	Gallatin	6,700	4	8.6[a]	.....	40[a]	31	−35[a]	5	54	2.85	.....	0.72	43.0	9	3[a]	10[a]	17[a]	sw.	P. Kerzenmacher.
Great Falls	Cascade	3,350	19	28.8	+ 4.0	56	31	− 7	1	27	0.36	− 0.28	0.21	3.9	4	13	14	4	sw.	S. H. Bauman.
Half Moon Pass	Fergus	6,500	....	....	.....	....	....	....	....	....	0.61	.....	0.40	2.4	8	2	27	2	w.	Thos. Stigen.
Half Way House	Broadwater	6,000	....	....	.....	....	....	....	....	....	3.05	.....	1.14	36.1	7	17	8	6	sw.	Gordon Deans.
Harlowton	Meagher	4,165	2	14.8[b]	.....	52[b]	23	−23[b]	5	43	....	.....	....	....	....	....	....	....	.....	Joseph Muir.
Hassel	Broadwater	5,200	....	....	.....	....	....	....	....	....	0.35	.....	0.27	3.7	3	0	30	1	w.	E. C. Albrecht.
Havre	Chouteau	2,505	30	22.4	+ 8.9	52	22	− 8	3	42	0.44	− 0.25	0.12	3.4	5	9	11	11	sw.	U. S. Weather Bureau.
Helena	Lewis & Clark	4,110	30	19.4	− 0.6	53	31	−21	3	37	0.80	− 0.13	0.49	12.8	7	8	11	12	w.	Do.
Highwood	Chouteau	....	3	....	.....	....	....	....	....	....	0.63	.....	0.23	7.4	3	15	6	10	sw.	W. S. McCord.
Home Park	Madison	....	5	....	.....	....	....	....	....	....	0.58	.....	0.33	7.5	3	9	10	12	e.	H. L. Miller.
Huntley	Yellowstone	3,014	4	21.2	.....	52	24	−24	3	44	0.47	.....	0.47	9.0	1	10	15	6	nw.	U. S. Reclamation Service.
Jones Canyon	Gallatin	6,800	....	....	.....	....	....	....	....	....	1.72	.....	0.84	25.0	6	18	13	10	w.	Jas. McCune.
Jordon	Dawson	....	5	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	W. C. Hendeson.
Kleinsmith Creek	Jefferson	6,000	1	....	.....	....	....	....	....	....	0.86	.....	0.60	14.3	5	4	25	2	w.	Mrs. E. W. Mills.
Lewistown	Fergus	4,010	13	25.1	+ 2.9	60	23	−20	3	35	1.40	+ 0.48	0.70	13.0	5	13	13	5	nw.	W. W. Watson.
Livingston	Park	4,488	13	26.0	+ 0.4	54	22	− 9	2†	37	1.35	+ 0.76	1.04	15.9	6	14	7	10	sw.	Lewis Terwilliger.
Lodge Pole Creek	Sweetgrass	5,700	....	....	.....	....	....	....	....	....	1.47	.....	0.73	18.3	5	10	20	1	w.	F. G. White.
Lone Tree	Chouteau	....	5	29.6	.....	63	23	−17	3	34	0.28	.....	0.10	3.0	3	17	7	7	w.	E. Wilson.
Lost Horse Creek	Meagher	5,800	....	....	.....	....	....	....	....	....	0.80	.....	0.58	17.7	4	10	19	2	w.	C. M. Mason.
Malta	Valley	2,240	3	17.2	.....	49	22	−16	11	46	0.09	.....	0.09	1.2	1	23	6	2	w.	U. S. Reclamation Service.
Meadow Creek	Madison	6,700	....	....	.....	....	....	....	....	....	0.50	.....	0.40	6.2	2	19	7	5	se.	F. E. Parent.
Melstone	Fergus	2,903	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	E. J. Parkinson.
Mildred	Custer	....	....	....	.....	....	....	....	....	....	0.10	.....	0.05	.....	3	15	15	1	sw.	Leon B. Clarke.
Miles City	...do	2,371	19	20.2	+ 5.7	52	22	−21	3	30	0.94	+ 0.32	0.32	9.3	9	14	10	7	s.	U. S. Weather Bureau.
Mill Creek	Park	5,500	1	....	.....	....	....	....	....	....	0.97	.....	0.57	10.8	5	16	9	6	sw.	W. H. Edick.
Moore	Fergus	....	3	....	.....	....	....	....	....	....	0.60	.....	0.33	9.0	2	13	16	2	w.	Clyde Grove.
Mudd Creek	Deer Lodge	....	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Emory Mudd.
Norris	Madison	4,845	4	21.2	.....	48	22	−13	3	44	2.53	.....	2.24	18.0	4	17	7	7	s.	Madison River Power Co.
Nye	Sweetgrass	....	2	23.4	.....	49	22	−22	3	43	1.45	.....	0.95	18.2	4	18	4	9	sw.	F. L. Bryant.
Olsen Creek	Jefferson	6,345	1	....	.....	....	....	....	....	....	1.07	.....	0.30	25.0	7	10	13	8	w.	Robt. Olsen.
Pipestone Pass	...do	7,000	1	....	.....	....	....	....	....	....	1.05	.....	0.72	17.0	7	10	18	3	w.	Mrs. Theola Kiermeyer.
Poplar	Valley	2,020	25	11.5	+ 5.0	46	22	−24	3	50	0.27	− 0.34	0.15	2.5	2	27	1	3	w.	H. M. Cozier.
Raymond	Teton	4,260	....	....	.....	58°	31	....	....	....	0.14	.....	0.08	....	3	10°	9°	7°	w.	W. H. Campbell.
Red Lodge	Carbon	5,548	10	20.2	− 2.2	51	31	−15	2†	38	0.76	− 0.13	0.68	7.5	3	11	11	9	se.	I. A. Draper.
Reese Creek	Gallatin	5,000	....	....	.....	....	....	....	....	....	1.27	.....	0.62	13.0	3	13	4	14	.....	Henry Cramer.
Renova	Jefferson	4,383	11	19.8	− 3.9	51	31	−30	4	44	0.59	+ 0.11	0.30	6.0	2	10	6	15	sw.	F. B. Elmer.
Rimini	Lewis & Clark	7,900	2	....	.....	....	....	....	....	....	0.75	.....	0.45	13.2	4	10	5	16	w.	Milo Brooks.
Ryegate	Yellowstone	3,640	1	....	.....	53	31	....	....	....	0.20	.....	0.10	....	2	21	9	1	nw.	H. W. Scherfenberg.
Sedan	Gallatin	3,155	2	19.0	.....	44	21	−20	3	36	0.70	.....	0.33	10.8	5	5	21	5	sw.	Jas. Woosley.
Springbrook	Dawson	....	9	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Mrs. H. L. Miller.
Stearns	Lewis & Clark	4,500	....	....	.....	....	....	....	....	....	0.53	.....	0.22	9.0	3	15	1	15	w.	J. W. Hardgrove.
Three Forks	Gallatin	4,066	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	A. A. Adams
Tokna‖	Dawson	2,050	5	14.3	.....	50	25	−20	8	44	0.47	.....	0.20	2.5	4	20	8	3	.....	U. S. Reclamation Service.
Townsend	Broadwater	3,790	1	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	River Observer.
Trail Creek	Park	6,000	1	....	.....	....	....	....	....	....	0.54	.....	0.23	18.9	9	18	10	3	w.	Andrew Wiedenbauer.
Utica	Fergus	5,000	16	25.7	+ 2.3	55	23	−20	3	36	1.20	+ 0.54	0.60	12.0	3	27	1	3	w.	P. W. Korell.
Valentine	...do	....	4	23.2	.....	54	24	−28	3	42	0.18	.....	0.15	....	2	22	1	8	w.	B. M. Bean.
Virginia City	Madison	5,880	22	17.8	− 2.4	43	24	−14	3	30	0.18	− 0.41	0.09	9.2	3	11	13	7	sw.	M. Mailand.
Wall Rock Mountain	Broadwater	5,600	....	....	.....	....	....	....	....	....	1.21	.....	0.50	16.7	11	12	17	2	.....	D. L. Doig.
Warm Springs Creek	Madison	7,500	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	M. D. Lytle.
West Rosebud Creek	Carbon	....	....	....	.....	....	....	....	....	....	0.78	.....	0.60	10.2	4	12	11	8	.....	C. P. Whitten.
Willow Creek	Park	9,000	....	....	.....	....	....	....	....	....	1.24	.....	0.74	16.7	....	4	23	4	w.	John Topp.
Wolf Creek	Lewis & Clark	4,000	5	27.8	.....	55	31	− 7	4	26	0.66	.....	0.35	6.6	3	5	16	10	w.	A. W. Verharen.
Wolf Point	Valley	1,995	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	River Observer.
Woodville	Jefferson	6,376	....	....	.....	....	....	....	....	....	0.77	.....	0.29	12.2	9	11	14	6	sw.	Anna Kinman.
North Dakota.																				
Aplin	Oliver	....	3	9.8	.....	44	31	−23	4	46	0.22	.....	0.10	2.2	3	13	14	4	sw.	J. B. Hagelbarger.
Beach	Billings	2,759	3	9.4	.....	40	31	−20	3	34	1.31	.....	0.34	8.0	7	14	15	2	sw.	D. J. Steiner.
Berthold Agency	McLean	2,082	13	10.6	+ 3.4	43	19	−30	8	54	0.20	− 0.33	0.12	1.8	2	17	7	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	35	9.4	+ 1.7	45	31	−24	3	47	0.57	+ 0.03	0.27	6.8	6	11	9	11	nw.	U. S. Weather Bureau.
Broncho	Mercer	....	2	12.6	.....	45	31	−18	3	45	0.54	.....	0.25	5.4	3	3	27	1	nw.	E. M. Walker.
Buford	Williams	1,944	4	13.0	.....	43	19†	−16	3†	42	0.15	.....	0.10	1.5	2	21	0	10	nw.	G. O. Sanford.
Coal Harbor	McLean	1,901	13	9.3	+ 1.4	40	1	−29	4	42	0.15	− 0.38	0.10	1.5	2	17	0	14	sw.	F. H. Childs.
Dickinson	Stark	2,453	17	13.0	+ 2.8	48	31	−22	3	46	0.34	− 0.09	0.15	4.6	5	13	15	3	w.	L. R. Waldron.
Edgeley	Lamoure	1,468	8	10.0	.....	38	31	−31	4	40	0.14	.....	0.05	.....	3	14	3	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	17	9.9	− 0.8	42	31	−28	4	42	0.10	− 0.26	0.10	.....	1	9	6	16	n.	U. S. Weather Bureau.
Epping	Williams	....	2	....	.....	....	....	....	....	....	0.28	.....	0.10	1.8	7	15	8	8	w.	J. C. Wilson.
Fullerton	Dickey	1,439	11	8.6	− 1.4	39	19	−33	4	37	0.96	+ 0.31	0.40	9.6	6	12	7	12	nw.	F. O. Alin.
Haley	Bowman	....	2	18.5	.....	41	1†	−13	4	47	1.12	.....	0.26	11.4	5	13	11	7	nw.	A. M. Oberchain.
Hettinger	Adams	2,253	3	....	.....	....	....	....	....	....	0.60	.....	0.20	10.0	4	0	21	10	nw.	F. E. Ellickson.
Howard	Williams	2,275	3	10.2	.....	38	31	−20	3	47	1.10	.....	0.25	9.0	5	15	11	5	sw.	C. P. Amsbaugh.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota—Cont'd.																				
Jamestown	Stutsman	1,390	22	8.2	+ 0.1	39	31	−31	4	45	0.40	− 0.23	0.15	4.0	4	8	17	6	nw.	L. B. Baldwin.
Lamoine	Kidder		2	7.5		40	31	−30	3	43	0.30		0.10	3.0	3	22	4	5	nw.	E. V. Virgin.
Lamoure	Lamoure	1,307	3																	A. H. Ormsby
McHenry	Eddy	1,509	1	8.0		36	31	−27	3	37	0.14		0.05	1.4	4	11	7	13	w.	John Knox.
Manfred	Wells	1,605	8	9.3		40	31	−30	3	43	0.20		0.10	2.0	2	11	17	3	nw.	P. B. Anderson.
Marmarth	Bowman		2								0.35		0.08	10.7	7	16	7	8	sw.	S. P. Grane.
Marstonmoor	Stutsman		2	6.5[e]		35[j]	19	−26	4	39[j]	0.05		0.05	0.5	1	14	8	9	nw.	H. H. McCumber.
Medora	Billings	2,225	13	15.5	− 0.2	46	31	−30	4	48	0.81	+ 0.15	0.41	8.1	4	13	7	11	e.	J. W. Hesser.
Melville	Foster	1,500	12	10.2[a]	+ 3.1	44[a]	31	−27[a]	3	41[a]	T.	− 0.32	T.	T.	0				nw.	J. P. Kidder.
Mott	Hettinger		3	9.8		47	19†	−23	2	36	0.74		0.25	14.0	6	19	4	8	w.	O. H. Opland.
Napoleon	Logan	1,955	18	6.2	+ 0.2	38	31	−30	4	43	0.35	− 0.26	0.10	3.5	4	17	5	9	sw.	C. J. Hoof.
New England	Hettinger	2,400	14																	W. C. McKenzie.
New Salem	Morton	2,163	3	11.6		44	31	−26	4	46	0.22		0.08	2.5	6	13	12	6	sw.	J. Christianson.
Orange	Adams		3	12.4		43	31	−22	8	40	0.90		0.40	9.0	4	15	10	6	nw.	J. E. Goforth.
Palermo	Ward	2,200	6								0.10		0.10	1.0	1					T. A. McCann.
Schafer	McKenzie		1	16.3		48	31	−14	4†	51	0.28		0.10	2.8	4	19	9	3	w.	F. L. Clark.
Steele	Kidder	1,857	14	8.0	+ 0.7	38	23	−27	4	31						10	7	14	sw.	B. C. Smith.
Swartwood	Bowman		2																	W. F. Adams.
Washburn	McLean	1,731	6	8.4[b]		49[b]	18	−26[b]	3	56[b]	0.08		0.03	1.8	3	13	15	3	w.	W. R. Peterson.
Williston	Williams	1,875	30	11.0		41	22	−18	12	46	0.27		0.10	2.7	5	6	13	12	sw.	U. S. Weather Bureau.
Wishek	McIntosh	2,010	5	9.9		40	31	−27	4	39	0.40		0.25	4.0	3	14	6	11	nw.	H. E. Timm.
South Dakota.																				
Aberdeen	Brown	1,300	20	8.9	− 1.8	39	22	−23	4	40	0.52	− 0.34	0.30	5.2	4	15	9	7	sw.	D. G. Gallett.
Academy	Charles Mix		11	16.2	− 4.3	42	31	−19	5	34	1.10	+ 0.68	0.55	13.5	5	14	9	8	nw.	I. T. Lothrop.
Alexandria	Hanson	1,352	21	12.2[b]	− 3.1	37[b]	22	−29	6	39[a]	1.58	+ 1.05	0.98	21.0	2	13	13	5	se.	W. S. Hill.
Ardmore	Fall River	3,557	1								0.30		0.20	3.0	3	16	9	6		C. V. Glenn.
Armour	Douglas	1,521	15	17.3	− 0.8	56	19	−24	4	47	1.71	+ 1.19	0.80	17.0	7				nw.	J. S. Bean.
Belle Fourche	Butte	3,000	2	23.8		56	24	−19	3	58	0.04		0.21	8.7	5	2	18	11	nw.	U. S. Reclamation Service.
Bowdle	Edmunds	1,995	15													→				Chas. Paul.
Brookings	Brookings	1,636	21					−29	6		1.08	+ 0.69	0.50	10.8	9	6	20	5	nw.	Experiment Station.
Burke	Gregory		2	17.0		42	19	−22	4†	40	1.05		0.60	10.5	3	20	7	4		James Connell.
Canton	Lincoln	1,248	15	15.4	− 2.7	49	19	−30	6	44	0.55	+ 0.04	0.55	16.0	1	13	4	14	nw.	John H. Holsey.
Cascade Springs	Fall River	3,422	2	20.5		55	31	−21	3	46	1.20		0.80	12.0	4	17	6	8	nw.	Fred Noerenberg.
Castlewood	Hamlin	1,685	4	11.9		35	22	−23	6	35	0.25		0.10	2.5	5	9	8	14	nw.	M. N. Bradley.
Centerville	Turner	1,229	13	14.5		41	19	−31	6	37	1.03	+ 0.55	0.40	10.3	7	0	9	22	nw.	Frank Williams.
Chamberlain	Brule	1,363	13	15.0[b]	− 5.1	43[a]	22	−20[a]	5	39[b]	1.00	+ 0.64	0.44	14.0	3	12	11	8	sw.	G. A. Fry.
Clark	Clark	1,779	16	10.2	− 1.8	39	19	−23	4†	36	1.05	+ 0.60	0.50	10.5	7	11	11	9	nw.	O. H. LaCraft.
Clear Lake	Deuel	1,800	7																	L. F. Hanley.
Cottonwood	Stanley			19.6		45	24†	−11	4†	43	0.66		0.25	7.2	8	11	16	4	nw.	Experiment Station.
Davistop	Perkins			13.2		49	31	−20	8	44	0.95		0.40	9.5	5	14	10	7	nw.	G. G. Davis.
Deadwood	Lawrence	4,535		25.8		55	21	−14	3	52	2.97		1.65	24.5	6	19	7	5		R. E. Grimshaw.
Deerfield	Pennington	6,000									0.98		0.23	15.4	11	17	8	6	sw.	Frank E. Miller.
De Smet	Kingsbury	1,726	17	12.2[a]	− 1.0	36	19	−32[a]	6	44[a]	2.60	+ 1.55	0.60	20.0	5	14	11	6	nw.	J. G. Purintun.
Dowliag	Stanley	2,250		20.8		47	22†	−18	5	42	1.60		0.50	16.5	7	13	11	7	nw.	M. P. Dowling.
Dumont	Lawrence	6,195									4.59		1.13	38.5	12	16	12	3	nw.	A. B. Wood.
Elk Mountain	Custer	4,700									1.16			8.4	6	17	6	8	nw.	James E. Blaine.
Elk Point	Union	1,127	11					−28	6		1.20	+ 0.69	0.60	12.0	3	0	19	12	ne.	M. Hoffman, jr.
Ellingson	Perkins					42	22				0.43		0.28	3.8	2	19	8	4	sw.	A. O. Knutson.
Englewood	Lawrence	5,723									2.48		0.63	37.0	14	7	21	3	nw.	John B. Jolly.
Eureka	McPherson	1,884	1	12.2		43	31	−22	4	35	0.60		0.30	6.0	3	19	6	6	nw.	Experiment Station.
Faulkton	Faulk	1,595	15	11.3	+ 0.1	38	22	−19	4	34	0.21	− 0.13	0.16	5.8	2	22	2	7	w.	Miss Belle Talcott.
Flandreau	Moody	1,565	20	14.0	+ 0.6	37	1†	−26	6	40	0.70	+ 0.30	0.30	7.0	3	16	7	8	s.	W. A. Harris.
Forestburg	Sanborn	1,231	18	12.7	− 0.7	39	22	−32	6	36	2.64	+ 2.05	2.00	26.4	3	14	12	5	nw.	S. S. Judy.
Fort Meade	Meade	3,624	28	27.4	+ 6.2	63	24	−11	3	61	0.57	− 0.14	0.20	8.5	6	18	9	4	w.	Post Hospital.
Frederick	Brown	1,371	3	8.4[c]		41[d]	18	−30[b]	4	49[d]	0.44		0.24	5.0	2	18	5	8		J. E. Jeffers.
Gannvalley	Buffalo		12	13.2	− 2.7	38	22	−22	6	35	1.27	+ 0.70	0.50	12.7	6	18	5	8	nw.	V. P. Drips.
Greenmount	Lawrence	6,430									1.85		0.90	33.6	8	12	11	8	w.	Hugh V. Harlan.
Greenwood	Charles Mix		16	19.2	− 2.6	49	22	−19	5†	38	1.00	+ 0.46	0.50	10.0	4	14	11	6	e.	T. C. Williamson.
Hardy Ranger Station	Lawrence	6,000									3.41		1.20	51.7	10	19	7	5	w.	Mrs. Mary E. Seals.
Harvey's Ranch	...do	6,282									3.89		0.78	40.3	10	18	4	9	nw.	Jerome Harvey.
Hermosa	Custer	3,278	4	24.9		60	24	−18	5	40	0.71		0.39	8.8	4	21	8	2		S. M. Booth.
Highmore	Hyde	1,800	14	12.0	− 2.2	39	31	−18	8	37	0.82	+ 0.57	0.28	9.3	6	11	12	8	sw.	Experiment Station.
Hill City	Pennington	5,067									0.59		0.16	9.0	5	24	5	2	w.	Geo. A. Karr.
Hopewell	Stanley			16.4		42	22†	−19	5	39	2.46			14.5	6	15	10	6	nw.	E. R. Myers.
Howard	Miner	1,564	18	10.4[d]	− 3.6	34[d]	1†	−30[d]	6	33[d]	1.42	+ 1.17	0.90	16.5	6	18	6	7	nw.	J. J. Cox.
Howell	Hand		8	9.4		40	19†	−24	14	41	1.31		0.34	11.8	8	19	7	5	nw.	M. A. Shuster, jr.
Huron	Beadle	1,306	28	11.2	+ 1.7	38	22	−29	6	33	1.49	+ 0.98	1.10	19.9	9	10	9	12	nw.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	13	9.8	− 2.1	38	22†	−22	4	35	0.30	− 0.14	0.20	3.0	2	21	2	8	nw.	J. B. Taylor.
Kadoka	Stanley	2,467		19.6		46	24†	−20	5	43	0.82		0.30	10.0	5	13	13	5	nw.	Rev. D. S. Brown.
Kennebec	Lyman	1,689	17	14.6	− 2.5	43	31	−23	5	37	1.70	+ 1.33	0.50	17.0	7	19	6	6	nw.	R. C. Van Horn.
Kidder	Marshall	1,295	6	11.1[b]		39[b]	25	−30[c]	4	31[c]	0.54		0.20	5.1	4	13	3	15		H. C. Schussler.
Kimball	Brule	1,788	21	14.0	− 2.1	40	1†	−22	5	38	0.59	+ 0.05	0.34	6.5	2	24	1	6	nw.	G. D. Rose.
La Delle	Spink	1,400	13	9.8	− 3.6	33	16	−36	6	31	0.79	+ 0.08	0.40	10.0	5	13	9	9	nw.	E. L. Ebbert.
Lead	Lawrence	5,200		24.5		54	25	−13	2	56	2.38		0.96	24.2	11	7	19	5	nw.	E. F. Irwin.
Lemmon	Perkins	2,345	1	14.0		44	31	−17	8	36	0.80		0.20	8.0	6	15	7	9	nw.	W. E. Lyman.
Leslie	Stanley		14	22.0[b]	+ 3.4	49[a]	23	2[b]	10†	30[b]										P. G. Robinson.
Marion	Turner	1,447	9	14.0		43	19	−26	6	40	3.79		1.54	28.5	7	2	16	13	nw.	M. H. Dains.
Marston	Sully		2	10.4		38	31	−19	14	37	0.95		0.70	8.5	3	15	7	9	nw.	John S. Walker.
Mellette	Spink	1,300	15	11.3	− 3.3	37	22	−29	6	43	0.34	− 0.10	0.26	3.4	3	14	7	10	se.	Frank A. Howe.
Menno	Hutchinson	1,325	13	13.8	− 4.8	40	19	−26	6	36	1.57	+ 1.17	0.58	12.5	7	10	9	12	nw.	J. H. Swanton.
Milbank	Grant	1,148	19	13.0[a]	+ 0.3	43	31	−20[a]	4	42[a]	0.80	+ 0.24	0.48	6.3	5	10	4	17	nw.	I. T. Patridge.
Mitchell	Davison	1,312	16	12.0	− 4.8	42	19	−24	6	38	2.04	+ 1.57	1.00	31.0	9	17	9	5	n.	C. W. Downey.
Murdo	Lyman	2,300	2	18.0		45	25	−19	5	40	1.70		0.60	17.0	4	19	10	2	nw.	L. C. Bode.
Oelrichs	Fall River	3,339	18	21.4[b]	− 0.3	48	22	−28[a]	5	39[a]	0.30	− 0.70	0.20	3.0	4	6	22	3	w.	J. E. Strouse.
Orman	Butte	2,920	4	21.1[a]		55	24	−16[a]	3	43[a]	1.00		0.50	6.5	4	14	10	7	w.	U. S. Reclamation Service.
Ottumwa	Stanley		2	14.7		42	24	−22	5	38	1.50		0.60	14.0	6	14	11	6	nw.	J. W. Breta.
Pierre	Hughes	1,572	18	16.0	+ 2.1	47	31	−13	5	34	0.94	+ 0.48	0.44	13.1	6	14	12	5	nw.	U. S. Weather Bureau.
Plankinton	Aurora	1,528	16								1.00	+ 0.58	0.45	13.0	4	14	11	6	nw.	W. G. Andrews.
Rapid City	Pennington	3,251	22	26.2	+ 4.7	61	24	−16	2	47	0.89	+ 0.45	0.21	9.0	11	10	17	4	w.	U. S. Weather Bureau.
Redfield	Spink	1,295	12	11.7[b]	− 2.0	38[d]	22	−25	6	38[d]	1.10	+ 0.86	0.60	11.0	3	17	1	13	s.	A. S. Hall.
Rochford	Pennington	5,228									1.08		0.30	16.4	8	20	10	1	nw.	Mrs. M. E. Deffenbaugh.
Rosebud	Meyer	2,600	16	22.4[b]	0.0	51[a]	25	−22[b]	5	43[b]	1.75	+ 0.96	0.60	17.5	8	7	20	4	nw.	W. M. Ege.
Roslyn	Day		4	11.3		34	19†	−22	4	31	0.62		0.25	6.8	9	6	8	17	nw.	O. O. Floren.
Savoy	Lawrence	4,500																		M. J. Hall.
Selby	Walworth		2	11.6		38	31	−15	4†	35	0.61		0.61	6.1	1	17	8	6	nw.	Miss Gertrude Hall.
Sioux Falls	Minnehaha	1,400	19	15.0	+ 0.2	45	19	−21	6	35	1.54	+ 1.01	0.68	20.5	6	7	11	13	nw.	J. H. Bechtold.
Spearfish	Lawrence	3,647	20	28.9	+ 3.7	58	24	− 8	3	54	0.53	− 0.35	0.23		5	9	13	9	w.	O. A. Martin.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Dakota—Cont'd.																				
Stephan	Hyde	1,840	6	11.5	− 1.4	45	31	−20	6	45	0.68	+ 0.08	0.25	7.0	5	13	7	11	nw.	Rev. A. Mattingly.
Tama	Meade		1	16.1		50	22†	−21	3	35	1.18		0.40	11.3	10	9	9	13	nw.	J. J. Daly.
Vale	Butte	2,765	2	21.7[e]		62[e]	24	−17[e]	3	48[e]	0.88		0.22	8.2	7				nw.	U. S. Reclamation Service.
Vermilion	Clay	1,222	9	18.2		50	19	−17	5†	38	0.96		0.36	8.5	4	15	6	10	nw.	Prof. E. C. Perisho.
Water's Ranch	Lawrence	4,000									0.80		0.32	10.8	5	16	5	10	sw.	George Waters.
Watertown	Codington	1,735	16	12.9	+ 1.9	36	22	−21	4	30	T.	− 0.52	T.	T.	0	9	7	15	ne.	Robert Q. Wood.
Wentworth	Lake		17	13.0[a]	+ 0.5	44[a]	1	−22[a]	6	40[a]	1.58	+ 1.19	0.61	15.8	6	12	8	11	nw.	R. C. Zimmerman.
Wessington Springs	Jerauld	1,410	11																	F. N. Dunham.
White Lake	Aurora	1,646									1.13		0.60	10.0	3	10	5	16	nw.	Mrs. G. A. Rogers.
Yankton	Yankton	1,234	36	17.4	+ 1.9	49	19	−16	5	39	1.16	+ 0.60	0.65	15.0	5	3	17	11	nw.	U. S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	11	11.6		35	19	−22	6	34	1.68	+ 1.46	0.63	20.0	5	13	12	6	nw.	W. S. Campbell.
Colorado.																				
Akron	Washington	4,650	8																	Ira M. Barnhouse.
Alma	Park	10,238	13								0.76	+ 0.06	0.51	13.0	3	18	0	13	w.	F. H. Clark.
Arriba (near)	Lincoln	5,238	4	27.5		65	31	−13	5	44	T.		T.	T.	0	14	12	5	sw.	C. S. Graves.
Auldhurst	Teller	8,500									T.		T.	T.	0	18	13	0	s.	Mrs. Alice A. Auld.
Barker	Boulder	8,000	3																	Eastern Colo. Power Co.
Boreas	Park	11,489									1.76		0.65	26.0	7	3	22	6		Frank Soper.
Boulder	Boulder	5,347	14	30.6	− 3.1	65	24†	− 8	2	37	0.20	− 0.16	0.20	4.0	1	15	16	0	w.	S. A. Giffin.
Burlington	Kit Carson	4,160	6	27.4		65	24	− 6	5†	34	0.05		0.03	1.5	2	20	7	4	nw.	C. Creglow.
Cassells	Park	8,445									T.		T.	T.	0	15	11	5	w.	Harriet M. Cassell.
Castle Rock	Douglas	6,220	18	29.8	+ 2.2	63	24	−10	6	51	0.10	− 0.31	0.10	1.0	1					Chas. Hy. Ellis.
Cheesman	Jefferson	6,890	7	31.6		62	22†	− 8	6	43	T.		T.	T.	0	24	5	2	sw.	C. L. Adams.
Cheyenne Wells	Cheyenne	4,279	18	27.4	− 1.3	68	24	− 5	5	40	T.	− 0.14	T.	T.	0	23	4	4	n.	J. B. Robertson.
Como	Park	9,785	10								0.26		0.13	4.0	2					Edwin Pike.
Cope	Washington		12	26.6	− 3.0	62	25	−10	5	36	0.48	+ 0.15	0.26	7.0	2	13	10	8	nw.	A. A. Williams.
Corona	Grand	11,660	3	8.8		31	23†	−27	6	26	3.62		0.68	38.9	13				w.	U. S. Weather Bureau.
Denver	Denver	5,272	38	31.6	+ 2.5	64	24	− 7	5	40	0.16	− 0.26	0.15	2.3	2	14	14	3	sw.	Do.
Edgewater	Jefferson	5,450	2	28.5		70	24	−12	5	52						26	5	0		Dr. J. B. Fish.
Estes Park Fish Hatchery	Larimer	8,000									0.46		0.13	9.0	5	5	15	11	w.	Gaylord H. Thomson.
Fort Collins	Larimer	4,985	31	25.3	− 1.2	64	24	−21	5	51	0.29	− 0.17	0.22	4.1	4	19	8	4	nw.	Colorado Agri. College.
Fort Morgan	Morgan	4,319	12	23.6	− 1.7	66	24	−20	5	46	0.05	− 0.08	0.05	1.0	1	20	3	8	nw.	Della M. Scott.
Frances	Boulder	9,300	5	23.4		53	1	−10	6	30	0.45		0.22	7.5	3	9	22	0	w.	D. A. Barry.
Fry's Ranch	Larimer	7,500		26.6		55	31	−10	6	40	0.70		0.24	6.5	5	18	8	5	w.	Norman W. Fry.
Georgetown	Clear Creek	8,550	9								0.29		0.12	3.4	5	14	11	6		H. L. Corbett.
Greeley	Weld	4,649	18	25.5	− 0.7	67	24	−17	5	38	0.18	− 0.01	0.15	2.5	4	24	3	4	e.	Nelson Reynolds.
Hartsel	Park	7,670									0.09		0.05	3.0	3	21	5	5		Emily Kleinknecht.
Hawthorne	Boulder	6,000	2								0.09		0.09	1.5	1	25	3	3		B. E. Chesebro.
Holyoke (near)	Phillips	3,745	14								0.05	− 0.10	0.05	2.5	1	20	3	8	w.	A. C. Cauble.
Idaho Springs	Clear Creek	7,534	10	28.6	+ 0.4	58	31	− 6	6	40	0.08	− 0.25	0.05	1.0	2	0	31	0	w.	J. J. Willis.
Kossler	Boulder	7,720	3								0.03		0.03	0.6	1	18	6	7	w.	Central Colo. Power Co.
La Porte	Larimer	5,053	19								0.31	− 0.11	0.27	5.0	3					P. A. Taft.
Le Roy (near)	Logan	4,380	20																	Chas. Green.
Longmont	Boulder	4,980	8	29.6		67	31	−10	6	46	0.07		0.06	2.0	2	20	5	6		Geo. W. Johnson.
Long's Peak (near)	Larimer	8,600	15	25.4	+ 2.0	51	24	− 9	6	39	0.45	− 0.06	0.27	6.0	4	14	14	3	nw.	Enos A. Mills.
Moraine	...do	7,775	20	26.7	+ 1.7	49	23†	− 8	5	34	0.32	− 0.22	0.10	4.5	5	13	12	6	w.	J. D. Stead.
Platte Canyon	Jefferson	5,492	11								T.	− 0.36	T.	0.4	0					Denver Union Water Co.
St. Cloud	Larimer	7,750	7								0.35		0.21	4.0	2	10	11	10	nw.	Mrs. E. K. Bristol.
Sedgwick	Sedgwick	3,573	2	23.1		61	31	− 6	3	37	0.20		0.20	3.0	1	15	15	1	sw.	Dr. Edwin Lewis.
Sill Mine	Clear Creek	11,500	1	13.8		33	23	−24	6	34	2.61		0.67	28.7	8	17	7	7	nw.	Chas. F. Deininger.
Spicer (near)	Larimer	8,700									0.71		0.30	11.3	8	10	8	13	sw.	Frank W. Murphy.
Sterling	Logan	3,892		23.0		61	31	−10	5	40	0.01		0.01	0.3	1	17	9	5	se.	Great Western Sugar Co.
Waterdale	Larimer	5,206	7	29.2		65	24	−11	6	51	0.16		0.16	2.0	2					P. H. Boothroyd.
Westlake	Boulder		2								0.05		0.05	1.5	1	10	7	14		G. E. Richardson.
Wray	Yuma	3,512	14	25.9	− 3.6	64	31	− 7	5	38	0.15	− 0.19	0.15	2.0	2	10	16	5	w.	J. C. Tuomey.
Yuma	Yuma	4,138	19								T.	− 0.49	T.	T.	0	7	11	13	nw.	Geo. W. Custer.
Nebraska.																				
Ainsworth	Brown	2,521	5	20.2		48	25	−22	5	39						4	22	5	sw.	John M. Cotton.
Albion	Boone	1,747	12	21.4	− 1.8	46	22	−12	5	44	0.75	+ 2.1	0.40	7.5	4	15	3	13	n.	F. M. Weitzel.
Alliance	Boxbutte	3,968	15																	J. A. Keegan.
Alma	Harlan	1,939	13	22.8	− 4.4	52	31	−17	5	36	0.41	+ 0.12	0.30	4.0	3	14	7	10	nw.	W. A. Sharpnack
Anoka	Boyd		4	13.8		46	19	−26	5	47	0.94		0.36	10.5	4	13	15	3	nw.	W. Whitla.
Arcadia	Valley	2,186	11								0.60	+ 0.30	0.40	6.0	2	9	12	10	nw.	Jas. L. Owen.
Ashland	Saunders	1,100	27	21.4	− 2.4	45	19	−14	6	34	0.87	+ 0.27	0.41	14.0	3	18	9	4	s.	Dr. A. S. von Mansfelder.
Ashton	Sherman	2,061	17								0.08	− 0.13	0.03		3	13	4	14	nw.	F. Rein.
Atkinson	Holt	2,108	4	18.1		44	31	−21	5	36	0.82		0.50		5	13	12	6	nw.	Chas. J. Wilson.
Auburn	Nemaha	1,051	18	24.2	− 1.4	49	25	−17	6	31	0.96	+ 0.11	0.51	8.0	5	8	12	11	nw.	J. R. Huffman.
Aurora	Hamilton	1,792	15	22.4	− 3.6	46	23	−15	5	36	0.35	+ 0.07	0.20	3.5	2	16	10	5	nw.	Chi., Burl. & Quincy R. R.
Beatrice	Gage	1,235	19	22.8	− 2.4	47	19	−23	6	37	1.05	+ 0.49	C.60	9.0	3	15	4	12	nw.	Wm. S. Waxham.
Beaver City	Furnas	2,147	19	24.0	− 4.4	49	31	−10	5	28	0.19	− 0.05	0.19	2.0	1	7	14	10	nw.	T. M. Davis.
Bellevue	Sarpy	1,210	28	22.9		47	20	−14	5	31	1.30	+ 0.35	0.70	8.4	4	20	1	10	ne.	Prof. A. A. Tyler.
Benkelman	Dundy	2,968	13																	R. D. Druliner.
Bertrand	Phelps	2,515	2								0.30		0.30	3.0	1					W. F. Dobbin.
Blair	Washington	1,122	15	22.4	− 0.8	46	19	−18	6	36	0.55	+ 0.12	0.50	5.5	2	7	15	9	nw.	H. H. Hahn.
Bloomfield	Knox		4	18.3		48	19	−24	6	45	1.10		0.50	11.0	3	6	14	11	n.	J. M. Barnard.
Bradshaw	York	1,715	11								0.65	+ 0.22	0.40	6.5	2	17	6	8		E. C. Roggy.
Bridgeport	Morrill	3,658	14	23.6	− 2.3	62	24†	−14	3	42	0.40	− 0.04	0.35	4.0	2	19	9	3	nw.	Robt. H. Willis.
Brokenbow	Custer	2,477	15	26.6[f]	+ 1.4	60	26	−18	13	49	0.22	+ 0.05	0.12		2	16	5	10		Chi., Burl. & Quincy R. R.
Burge	Cherry	2,674	4	21.0[a]		51	25	−27	5	54	0.98		0.55		3	17	6	8	nw.	H. A. Davis.
Cairo	Hall	1,951	1								0.88		0.36		3					Elliott Harrison.
Callaway	Custer	2,555	17	26.4	+ 1.4	55	23	−12	5	39	0.28	− 0.07	0.28	4.0	1	19	3	9	nw.	J. H. Evans.
Cambridge	Furnas	2,258	3	24.0		53	31	− 9	5	29	0.30		0.30	3.0	1	14	8	9	w.	Chas. Jensen.
Canton (near)	Sioux		1																	A. E. Hann.
Columbus	Platte	1,442	17	19.8	− 3.4	48	19	−16	5†	43	0.48	+ 0.15	0.16	5.5	4	10	9	12	nw.	C. C. Gray.
Cozad	Dawson	2,496	2								0.15								nw.	A. A. Luttin.
Creighton	Knox	1,600	13	18.9	+ 2.3	46	19	−19	5	37	0.67	− 0.04	0.33	6.6	5	16	8	7	nw.	E. S. Cowan.
Crete	Saline	1,368	27	23.6[e]	+ 1.7	49	23	−14	5	32	0.96	+ 0.34	0.47	7.0	3	18	3	10	n.	Doane College.
Culbertson	Hitchcock	2,565	23	25.2		55	29	−10	3†	30	0.35	0.00	0.35	3.5	1	11	8	12	w.	J. H. Corrick.
Curtis	Frontier	2,553	13	25.8[b]	− 1.5	55	23†	−13	5	48	0.60	+ 0.21	0.60	6.0	1				ne.	Dr. S. R. Rasee.
David City	Butler	1,619	21	21.2	− 0.6	49	23	−13	5	31	0.85	+ 0.08	0.37	6.8	4	10	8	13	nw.	S. Clingman.
Dawson	Richardson	945	17	24.1	− 3.9	52	19†	−15	6	31	1.19	+ 0.48	0.57	7.0	4	17	4	10	nw.	Mrs. E. I. Atkinson.
Dubois	Pawnee	1,074	5								1.49		0.75	0.82	4	19	3	9	se.	O. M. Backus.
Edgar	Clay	1,722	16																	Geo. W. Ferree.
Ellis	Gage	1,430	5								1.10		0.60	11.0	2					D. J. Wood.
Elmcreek	Buffalo	2,268	2								1.18		0.64		3					E. L. Sutton.
Elsie	Perkins	3,382	2								0.20		0.20	4.0	1					J. F. Brittair.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Cont'd.																				
Enderslake	Brown		1																	G. W. Chappell.
Ewing	Holt	1,888	18	17.5		45	19	−19	5	40	1.10	+ 0.69	0.50	11.0	3					G. H. Benson.
Fairbury	Jefferson	1,316	35	24.9	− 1.5	53	25	−15	6	37	1.26	+ 0.51	0.44	6.5	7	13	10	8	nw.	W. F. Cramb.
Fairmont	Fillmore	1,641	17	19.8	− 4.4	43	25	−18	5	39	0.97	+ 0.34	0.40	7.0	4	18	2	11	s.	Chi., Burl & Quincy R. R.
Fort Robinson	Dawes	3,764	26	26.6[a]	+ 3.4	57	24	−12	3	40	0.21	− 0.45	0.17	.....	2	24	0	7	nw.	Post Hospital.
Franklin	Franklin	1,820	19	22.0[b]	− 2.9	50	23†	−18	5	36	0.80	+ 0.39	0.40	7.0	3	15	5	11	w.	D. T. Shoemaker.
Fremont	Dodge	1,203	30	21.0	+ 1.6	44	19†	−19	6	46	0.80	− 0.06	0.60	7.0	3	9	11	11	nw.	Ernest Hahn.
Fullerton	Nance	1,629	8	20.7[a]		46	22	−19	5	39	0.68	.....	0.41	6.5	2	17	8	6	nw.	Dr. F. W. Johnson.
Geneva	Fillmore	1,633	20	22.0	− 2.7	44	1	−16	5	40	0.94	+ 0.50	0.60	9.0	3	13	7	11	nw.	F. M. Flory.
Genoa	Nance	1,584	35	20.8	+ 1.1	44	22	−17	5	35	0.68	0.00	0.30	7.0	4	8	14	9	nw.	F. W. Parsons.
Gordon	Sheridan	3,550	8	.....							1.75	+ 1.21	0.75	11.8	4	10	20	1	nw.	G. F. Williams.
Gosper	Gosper		8								0.14		0.09	3.5	2	12	7	12	n.	E. H. Stoll.
Gothenburg	Dawson	2,557	16	23.1	− 2.2	48	23†	−11	5	40	0.50	+ 0.07	0.30	5.0	2	13	4	14	nw.	Dr. W. J. Bartholomew.
Grand Island	Hall	1,860	19	22.9	− 2.0	47	28	−12	6	32	0.61	+ 0.11	0.30	.....	4	11	10	10	w.	E. A. Barnes.
Grant	Perkins	3,405	7	22.8	.....	60	31	− 8	5	37	0.20	.....	0.20	2.0	1	16	7	8	nw.	Cyrus Carver.
Greeley	Greeley	2,121	15	20.2	.....	44	22	−11	5	29	1.08	+ 0.71	0.58	10.8	3	11	10	10	nw.	W. E. Morgan.
Guiderock	Webster	1,646	10								0.90	+ 0.36	0.40	7.0	3	11	7	13	nw.	J. S. Marsh.
Haigler	Dundy	3,258	15								0.00	− 0.17	0.00	0.0	0	16	9	6	.....	Chi., Burl. & Quincy R. R.
Halsey‖	Thomas	2,695	8	22.9		53	19	−15	5	44	0.68	.....	0.24	2.0	3	9	18	4	nw.	U. S. Forest Service.
Hartington	Cedar	1,309	19	19.1	+ 0.6	45	19	−15	5	37	0.70	− 0.09	0.30	7.0	5	8	7	16	nw.	D. E. Ewing.
Harvard	Clay	1,812	21	19.6	− 4.1	41	19†	−14	5	39	0.46	0.00	0.31	3.9	3	15	7	9	nw.	Dr. J. T. Fleming.
Hastings	Adams	1,932	20	20.7	− 4.1	47	29	−13	5	40	0.85	+ 0.41	0.45	8.0	3	12	13	6	nw.	Chi., Burl. & Quincy R. R.
Hayes Center	Hayes		17	25.5		58	25	− 5	5	32	0.70	+ 0.26	0.60	7.0	2	19	7	5	nw.	C. A. Ready.
Hays Springs	Sheridan	3,821	23	21.6	+ 1.3	58	31	−23	3	47	1.10	+ 0.42	0.30	11.0	6	12	17	2	nw.	A. Kadlecek.
Hebron	Thayer	1,458	25	23.0	− 1.0	45	19	−15	5†	32	0.83	+ 0.09	0.50	7.0	3	.....	.....	.....	.....	Dr. C. M. Easton.
Hemingford	Boxbutte	4,256	1								0.37	.....	0.11		9	.....	.....	.....	.....	A. S. Enyeart.
Hendley	Furnas	2,231	6								0.40	.....	0.40	4.0	1	.....	.....	.....	.....	F. L. Jones.
Hillside	McPherson		1	21.3		49	25	− 9	3	41	0.15		0.12	3.0	2	10	11	10	nw.	Mrs. M. R. Lloyd.
Holdrege	Phelps	2,324	18	24.0	− 2.2	56	31	−10	5	38	0.90	+ 0.48	0.60	9.0	3	18	0	13	nw.	Chi., Burl. & Quincy R. R.
Hooper‖	Dodge	1,228	13	20.8	− 2.0	46	19	−18	6	30	0.17	− 0.15	0.15	6.0	2	15	7	9	nw.	W. Howard Heine.
Imperial	Chase	3,278	20	24.6	− 2.5	60	31	− 4	5†	42	0.40	− 0.07	0.30	5.8	2	8	12	11	nw.	Robt. Malcolm.
Kearney	Buffalo	2,146	20	22.3	− 3.7	53	23	−17	5	40	0.70	+ 0.22	0.40	7.0	2	15	6	10	nw.	N. C. Dunlap.
Kimball	Kimball	4,697	21	24.2	− 3.0	62	25†	−13	3	41	0.05	− 0.36	0.05	0.5	1	21	5	5	nw.	F. J. Bellow.
Kirkwood	Rock		15	20.2	− 1.8	47	22	−18	5	37	0.95	+ 0.40	0.40	9.5	4	18	8	5	nw.	Mrs. C. Arter.
Kowanda	Deuell		2																	Geo. W. Hulse.
Lexington	Dawson	2,385	21	22.4	− 2.8	47	19	−16	5	39	0.65	+ 0.08	0.60	6.5	2	20	0	11	nw.	Robt. Chadwick.
Lincoln	Lancaster	1,189	31	21.8	+ 0.6	46	25	−13	5	33	1.15	+ 0.53	0.50	10.3	4	10	3	18	s.	U. S. Weather Bureau.
Loup	Sherman	2,067	16	21.0	− 3.4	46	19†	−15	5†	35	1.10	+ 0.86	0.40	11.0	3	23	5	3	nw.	E. S. Hayhurst.
Loyal	Custer		2								0.30	.....	0.30	3.0	1	18	6	7	n.	C. H. Cass.
McCook	Redwillow	2,506	15	23.0	− 5.3	56	31	−15	5	36	0.00	− 0.26	0.00	0.0	0	17	7	7	nw.	C. G. Coglizer.
McCool Junction	York	1,575	12								1.10	+ 0.66		10.0	4					L. L. Slagle.
Madison	Madison	1,585	17	20.5	− 2.3	47	19	−13	5	33	0.70	+ 0.20	0.40	7.0	4	15	0	16	nw.	Dr. F. A. Long.
Marquette	Hamilton	1,833	31								0.55	− 0.02	0.30	5.5	2					John Ellis.
Mason City	Custer	2,257	9								1.00	+ 0.57	0.60	.....	2					J. A. Amsberry.
Minatare	Scottsbluff	3,825	1																	Anthony Kennedy.
Minden	Kearney	2,169	33	21.6	− 0.9	49	23	−15	5	39	0.83	+ 0.03	0.36	8.5	7	8	10	13	nw.	Joel Hull.
Mitchell	Scottsbluff		2	22.3	.....	50	24	−16	3	43	0.10	.....	0.05	1.0	2	12	19	0	nw.	U. S. Reclamation Service.
Monroe	Platte	1,525	13																	Wm. Webster.
Morrill	Scottsbluff		1																	Edwin K. Wieland.
Nebraska City	Otoe	941	33	22.8	+ 2.2	49	19†	−19	6	38	2.20	+ 1.40	1.10	22.0	3	13	7	11	nw.	Chi., Burl. & Quincy R. R.
Norfolk	Madison	1,532	27	18.5	− 0.5	48	19	−17	6	47	0.55	+ 0.13	0.30	5.5	3	20	2	9	nw.	Dr. P. H. Salter.
North Loup	Valley	1,961	22	21.0	− 1.1	50	31	−16	5†	40	0.40	− 0.19	0.25	7.0	3	15	8	8	nw.	W. G. Rood.
North Platte	Lincoln	2,841	36	22.2	+ 0.8	57	31	− 9	5	36	0.34	− 0.13	0.28	3.9	5	13	10	8	w.	U. S. Weather Bureau.
Oakdale	Antelope	1,722	23	17.4	− 1.5	44	31	−14	5	39	0.48	+ 0.01	0.21	5.0	3	11	10	10	nw.	G. S. Clingman.
Odell	Gage	1,278	16								1.05	+ 0.53	0.40	8.0	4	11	6	14	.....	Chi., Burl. & Quincy R. R.
Omaha	Douglas	1,103	49	22.4	+ 1.9	48	19	−10	5	25	0.94	+ 0.29	0.56	6.9	7	7	11	13	nw.	U. S. Weather Bureau.
Ord	Valley	2,062	16								0.68	+ 0.33	0.32	.....	3	11	9	11	n.	James Milford.
Orleans	Harlan	1,993	2								0.50		0.40	4.0	2					James McGeachin.
Osceola	Polk	1,644	12	20.4	.....	40	19†	−14	5	31	0.70	+ 0.41	0.40	7.0	3	22	4	5	nw.	G. T. Ray.
Palisade	Hitchcock		1																	E. E. Young.
Palmyra**‖	Otoe	1,142	15	23.5	− 1.7	48	19†	− 8	6	..	1.10	+ 0.69	0.80	11.0	2	19	6	6	n.	Thomas Coles.
Pawnee City	Pawnee	1,175	15	24.2	.....	55	25	−21	6	39	1.00	+ 0.13	0.60	4.5	3	19	3	9	sw.	Frank A. Barton.
Plymouth	Jefferson	1,419	6	21.9	.....	47	18	−16	6	39	0.79	.....	0.35	.....	5	9	10	12	nw.	John Ruppel.
Purdum	Blaine		10	20.7[a]		52	31	−21	5	37	0.90	.....	0.50	9.0	3	16	7	8	nw.	T. C. Jackson.
Ravenna	Buffalo	2,028	33	21.4	− 2.8	51	31	−14	6	48	0.81	+ 0.19	0.41	7.0	2	14	6	11	nw.	Erastus Smith.
Redcloud	Webster	1,687	18	22.7	− 3.7	49	23	−19	6	38	0.54	+ 0.21	0.28	5.0	3	16	4	11	nw.	Chas. S. Ludlow.
St. Libory	Howard	1,887	15								0.80	+ 0.31	0.40	6.0	3	16	6	9	nw.	W. I. Meader.
St. Paul	...do	1,796	16	22.0	− 4.1	47	22†	−16	6	37	0.69	+ 0.28	0.40	6.0	3	18	4	9	nw.	Paul Anderson.
Santee	Knox		22	20.0	+ 1.3	49	19†	−18	5†	39	1.00	+ 0.45	0.40	10.0	3	14	10	7	nw.	E. G. Kendall.
Sargent	Custer		13	22.2	.....	53	31	−13	5	42	0.70	+ 0.13	0.30	7.0	4	21	0	10	nw.	Jas. L. Ferguson.
Schuyler	Colfax	1,357	17	18.8	.....	45	19	−19	4	32	0.50	+ 0.05	0.20	4.0	3	10	15	6	nw.	John T. Sumner.
Scottsbluff	Scottsbluff	3,888	4	24.8	.....	62	31	−15	3	41	0.16	.....	0.09	1.8	2	19	9	3	nw.	A. B. McCoskey.
Seward	Seward	1,435	20	20.0	− 4.9	44	18	−18	4	36	0.92	+ 0.36	0.35	8.0	4	16	6	9	nw.	Chi., Burl. & Quincy R. R.
Sheridan	Wheeler		2								1.10		0.40	11.0	3	20	6	5	nw.	J. C. Harris.
Sidney	Cheyenne	4,093	18								0.30	− 0.19	0.30	3.0	1	26	3	2	nw.	John P. Fischer.
Springview	Keyapaha		17	20.5	− 0.7	48	25	−20	5	30	1.10	+ 0.60	0.60	11.0	3	16	10	5	nw.	C. L. Phelps.
Stanton	Stanton	1,472	19	19.3	− 1.3	47	19	−18	5†	41	0.80	+ 0.33	0.50	7.0	4	11	14	6	w.	Alfred Pont.
Stratton	Hitchcock	2,804	15								0.30	+ 0.03	0.30	3.0	1	.....	.....	.....	.....	Miss Stella Vennum.
Superior	Nuckolls	1,574	25																	F. V. Bishop.
Tablerock	Pawnee	1,023	22								1.47	+ 0.89	0.75	8.0	6	15	4	12	nw.	E. D. Howe.
Tecumseh	Johnson	1,113	32								1.30	+ 0.41	0.45	7.0	5	11	10	10	.....	L. E. Pratt.
Tekamah	Burt	1,060	20	19.8	− 2.3	42	25	−23	6	40	0.75	0.00	0.50	7.0	3	5	15	11	nw.	Dr. A. D. Nesbit.
Turlington	Otoe	1,214	18	22.0	− 2.1	44	19	−15	5	27	1.25	+ 0.46	0.80	8.5	3	17	2	12	nw.	Wm. N. Hunter.
University Farm‖	Lancaster		25	21.8		45	19†	−14	5	37	0.88	+ 0.34	0.52		4	10	12	9	.....	S. W. Perin.
Valentine	Cherry	2,613	22	19.6	+ 1.4	49	25	−25	4	45	1.61	+ 1.09	0.67	18.0	7	10	20	1	w.	U. S. Weather Bureau.
Wahoo	Saunders	1,187	8								0.90		0.70	9.0	2	19	5	7	nw.	W. T. Mauck.
Wakefield	Dixon	1,387	16	19.2	− 2.0	48	19	−21	6	42	0.42	− 0.12	0.15	4.2	4	15	4	12	nw.	I. H. Weaver.
Wallace	Lincoln	3,116	14								0.55	+ 0.03	0.30	3.0	2	23	4	4	nw.	Chi., Burl. & Quincy R. R.
Walthill	Thurston		8								0.25	.....	0.20	2.5	2				.....	H. L. Keefe.
Watertown	Buffalo	2,299	5								0.56	.....	0.35	7.0	2	13	8	10	nw.	R. E. Swift.
Wauneta	Chase		11								0.00	− 0.24	0.00	0.0	0				.....	C. D. Fuller.
Weepingwater	Cass	1,080	33	21.4		50	19	−26	6	46	1.92	+ 0.97	1.20	11.8	4	18	3	10	nw.	S. W. Orton.
Westpoint	Cuming	1,313	24	19.6	− 2.9	45	22	−22	6	44	0.20	− 0.43	0.20	2.0	1	16	8	7	n.	J. C. Elliott
Wilber	Saline	1,325	16								1.65	+ 1.15	0.50	9.0	5	12	7	12	nw.	Chi., Burl. & Quincy R. R.
Wisner	Cumimg	1,380	14																.....	Hoff & Deily.
Woodlawn	Lancaster		5								0.99		0.41	8.0	3	9	12	10	nw.	H. C. Kendall.
York	York	1 606	21	21.7	− 3.7	45	25	−14	5	38	0.65	+ 0.13	0.40	6.0	3	14	7	10	nw.	A. T. Giauque.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa.																				
Afton‡	Union	1,212	16	22.0	− 0.7	44	5	−13	6	29	1.40	+ 0.51	1.00	12.0	3	11	7	13	sw.	N. W. Rowell.
Allerton‡	Wayne	1,513	8	23.2	.....	48	25	−19	6	32	1.71	.....	0.70	7.1	5	17	2	12	nw.	Mrs. Geo. Shriver.
Alton	Sioux	1,335	5	15.0	.....	38	19	−29	6	39	1.45	.....	0.70	14.5	5	16	5	10	nw.	W. S. Slagle.
Atlantic	Cass	1,164	19	19.9	− 0.5	44	19	−24	6	30	1.17	+ 0.41	0.51	6.0	4	8	10	13	nw.	Thos. H. Whitney.
Audubon‡	Audubon	1,301	16	20.0	+ 1.1	39	15†	−17	6	26	1.80	+ 1.15	1.30	17.0	3	16	2	13	nw.	Geo. E. Kellogg.
Bedford‡	Taylor		10	21.5	− 2.3	48	19†	−26	6	35	2.46	+ 1.36	1.20	17.8	9	15	4	12	nw.	E. E. Healy.
Centerville	Appanoose																			Gordon Peacock, jr.
Charlton‡	Lucas	1,042	15	21.4	− 2.3	45	23	−22	6	34	0.70	− 0.62	0.45	4.0	2	14	0	17	nw.	C. C. Burr.
Clarinda	Page	1,009	20	20.4	− 2.1	49	23	−22	7	45	1.73	+ 0.75	0.77	10.2	6	15	5	11	nw.	A. S. Van Sandt.
Corning‡	Adams	1,117	18	19.9	− 2.0	44	26	−26	6	35	1.30	+ 0.39	0.80	8.0	3	16	5	10	nw.	Jerome Smith.
Corydon‡	Wayne	1,101	17	22.7	− 0.6	48	25	−19	6	33	1.69	+ 0.20	0.71	6.0	8	13	6	12	nw.	Clara Miller.
Creston	Union	1,312	5	18.4	.....	50	29	−25	6	33	1.40	.....	0.80	.....	3	17	2	12	nw.	Edgar Stovall.
Cumberland	Cass		10																	J. H. Reppert.
Denison	Crawford	1,180	16	18.4	− 1.9	43	19	−26	6	33	0.87	− 0.37	0.60	8.2	3	16	3	12	n.	W. C. Van Ness.
Elliott	Montgomery	.....	5	20.6	.....	43	19†	−31	6	39	0.63	.....	0.50	5.0	2	12	13	6	nw.	Henry Barnes.
Greenfield	Adair		17	19.2	− 2.1	42	19	−19	6	28	1.44	+ 0.49	0.80	.....	3	17	3	11	nw.	R. B. Oldham.
Hancock	Pottawattamie	1,113	5	20.6	.....	42	19†	−21	6	27	1.40	.....	0.60	6.0	3	18	4	9	nw.	G. C. Rogers.
Harlan‡	Shelby	1,192	11	18.8	− 2.4	44	19	−27	6	34	1.00	+ 0.34	0.60	9.2	4	8	9	14	nw.	C. A. Reynolds.
Hopeville	Clarke		19	20.6	− 0.8	44	19†	−20	6	33	1.66	+ 0.72	0.83	.....	7	8	11	12	nw.	M. T. Ashley.
Inwood‡	Lyon	1,474	6	14.4	.....	42	19	−30	6	45	1.06	.....	0.35	10.3	5	14	8	9	nw.	F. B. Hanson.
Lamoni	Decatur		3	23.1	.....	47	26	−16	6	32	1.20	.....	0.77	7.1	6	20	0	11	nw.	T. J. Fitzpatrick.
Larrabee	Cherokee	1,266	20	15.4	− 2.0	39	19	−23	6	33	1.21	+ 0.67	0.57	12.2	6	12	8	11	nw.	H. B. Strever.
Le Mars‡	Plymouth	1,224	14	17.1	− 2.1	37	19†	−19	6	35	0.73	+ 0.19	0.26	18.0	3	4	16	11	nw.	G. A. C. Clarke.
Lenox‡	Taylor	1,250	15	21.2	− 2.1	43	25	−16	6	28	0.88	+ 0.12	0.45	4.8	3	17	2	12	nw.	J. L. Hurley.
Leon	Decatur	1,120	8	22.0	.....	45	25	−19	6	30	2.92	.....	1.00	12.8	9	10	7	14	nw.	Morris Gardner.
Little Sioux‡	Harrison		5	20.0		47	19	−28	6	44	1.20		0.90	10.5	3	13	7	11	nw.	Geo. H. Gibson.
Logan‡	...do	928	43	20.4	+ 1.1	46	19	−24	6	34	0.67	− 0.43	0.40	.....	3	10	12	9	nw.	Glenn H. Stern.
Massena‡	Cass		4	19.6	.....	43	19†	−26	6	31	1.93	.....	1.00	11.0	3	18	2	11	nw.	C. E. Smeltzer.
Mount Ayr‡	Ringgold	1,236	17	22.4	− 0.9	45	19†	−15	6	32	1.39	+ 0.15	0.55	8.5	6	14	4	13	nw.	A. F. Beard.
Odebolt‡	Sac	1,356	13	18.6	− 1.8	45	19	−19	6	29	0.96	+ 0.55	0.50	10.0	2	16	3	12	.....	E. Starner.
Onawa‡	Monona	1,051	10	21.2	− 1.4	42	22	−18	6	35	0.92	+ 0.26	0.35	9.1	5	15	3	13	nw.	C. G. Perkins.
Pacific Junction‡	Mills	960	11	20.2	− 3.1	44	25	−29	6	38	1.40	+ 0.86	0.65	7.7	4	13	10	8	n.	H. H. McCartney.
Rock Rapids‡	Lyon	1,358	11	14.8	− 0.9	38	1	−21	6	31			0.60		4					W. C. Wyckoff.
Sheldon‡	O'Brien	1,422	10	14.7	− 2.9	40	19	−23	6	36	3.15	+ 2.55	1.00	26.0	9	19	3	9	nw.	Dr. A. W. Beach.
Sibley	Osceola	1,212	17	12.9[a]	− 2.0	39[a]	19	−21[a]	6	38[b]	1.05	+ 0.51	0.50	10.5	4	16	1	14	nw.	H. G. Doolittle.
Sioux Center‡	Sioux		11	14.8[a]	− 3.1	38[a]	22	−20[a]	6	34	1.55	+ 1.07	0.80	15.5	5	.....	.....	.....	nw.	J. de Ruyter.
Sioux City	Woodbury	1,135	21	18.2	+ 2.6	42	22	−17	6	36	0.69	+ 0.14	0.39	9.6	4	4	12	15	nw.	U. S. Weather Bureau.
Thurman‡	Fremont	.....	13	20.7	− 3.5	48	25	−30	6	41	0.91	+ 0.27	0.52	10.2	4	9	15	7	nw.	C. R. Paul.
Washta‡	Cherokee	1,157	12	15.8	.....	45	19	−34	6	42	0.55	+ 0.07	0.30	6.0	2	12	6	13	n.	H. L. Felter.
Woodburn‡	Clarke	961	11	20.0	.....	48	26	−33	6	50	1.96	+ 0.82	0.80	9.0	5	15	3	13	nw.	C. B. McDonough.
Kansas.																				
Abilene	Dickinson	1,157	15								1.29	+ 0.57	0.88	4.7	4	13	11	7	sw.	I. H. Sherman.
Agricultural College	Riley	1,109	52	27.6	+ 1.7	58	25	−18	6	39	1.46	+ 0.66	0.75	6.5	3	16	10	5	sw.	Prof. J. O. Hamilton.
Alton	Osborne	1,651	8	24.2	.....	55	31	−18	5	38	0.67	− 0.13	0.50	5.7	4	12	7	12	nw.	H. A. Storer.
Atchison	Atchison	973	19	26.6	− 1.0	57	25	−10	6	28	2.15	+ 1.02	1.00	8.5	4	18	0	13	w.	M. F. Troxell.
Baker	Brown	1,182	10																	E. A. Bastien.
Beloit	Mitchell	1,383	15								0.37	− 0.04	0.33	4.0	2	15	6	10	nw.	W. H. Houghton.
Blakeman	Rawlins	2,894	13	26.6	.....	63	25	− 8	6	44	0.25	− 0.01	0.22	2.0	3	16	5	10	nw.	C. L. Henderson.
Blue Rapids	Marshall	1,105	4																	M. Norton.
Centralia	Nemaha	1,256	1	24.8	.....	53	25	−13	6	32	1.54	.....	0.75	7.4	3	11	10	10	nw.	L. E. Hazen.
Chapman	Dickinson	1,123	6	27.4	.....	55	25	−22	6	40	0.73	.....	0.58	3.0	2	15	6	10	s.	R. McShea.
Clay Center	Clay	1,203	9	26.0	.....	55	26	−17	6	36	0.90	.....	0.50	4.0	2	10	4	17	s.	O. L. Slade.
Colby	Thomas	3,138	19	28.0	− 0.9	65	25	−10	5	36	0.18	− 0.04	0.16	2.7	2	14	7	10	nw.	R. M. Chelf.
Concordia	Cloud	1,398	26	25.5	+ 1.1	54	25	−10	6	29	0.59	− 0.13	0.49	5.4	5	6	16	9	nw.	U. S. Weather Bureau.
Densmore	Norton	2,200	1	25.0	.....	62	25	−12	5	35	0.36	.....	0.31	3.5	2	17	6	8	nw.	F. S. Griffith.
Dresden	Decatur	2,731	16	27.1	− 2.3	62	25†	− 6	5	33	0.52	+ 0.21	0.52	4.0	1	15	7	9	nw.	Jacob Back.
Ellsworth	Ellsworth	1,537	6	27.9	.....	61	25	−13	6	40	0.96	.....	0.45	4.5	4	13	13	5	s.	Geo. Seitz.
Enterprise	Dickinson	1,144	8	28.6	.....	60	27	−20	6	39	1.70	+ 0.98	0.90	6.0	4	7	13	11	s.	C. F. Wagner.
Eskridge	Wabaunsee	1,412	4	29.0	.....	59	25	− 3	5	28	2.26	.....	1.10	5.5	5	11	9	11	s.	Geo. D. West.
Farnsworth	Lane	2,850	9	30.1		71	25	−13	5	44	0.36	.....	0.32	3.2	2	14	10	7	nw.	C. M. Jennison.
Ft. Scott	Bourbon	857	35	33.8[d]	+ 0.9	69[d]	25	0[d]	6	34[d]	1.75	− 0.21	1.00	4.0	3	16	1	14	sw.	E. A. Shaver.
Frankfort	Marshall	1,146	16	25.2	− 4.0	55	25	−26	6	43	1.35	+ 0.67	0.60	8.5	3	10	13	8	nw.	E. C. Dunham.
Garnett	Anderson	950	4			64	25				0.98	.....	0.50	4.2	5	15	8	8	s.	D. D. Judy.
Goodland	Sherman	3,687	3																	G. L. Calvert.
Gove**	Gove	2,750	21	29.9	+ 0.1	61	22†	− 6	4†		0.63	+ 0.25	0.50	6.0	3	16	12	3	nw.	Jesse Royer.
Hanover	Washington	1,225	13	25.4	.....	55	25	−16	6	34	1.27	+ 0.70	0.65	6.8	4	17	5	9	nw.	August Jaedicke, jr.
Harrison	Jewell	1,804	9	22.9	.....	46	19	−15	6	41	0.62	.....	0.28	4.5	3	19	2	19	nw.	Mahlon Tegley.
Hays	Ellis	2,000	42	27.4	− 2.7	64	25	−17	5	39	0.58	− 0.03	0.55	5.0	4	9	15	7	nw.	G. K. Helder.
Hill City	Graham	2,134	2	28.2	.....	66	25	−11	5	40	0.30	.....	0.30	3.0	1	16	5	10	nw.	I. R. Mort.
Horton	Brown	1,188	21	25.6	− 1.5	46	25	− 8	5	28	1.52	+ 0.54	0.85	6.0	4	17	2	12	nw.	Mrs. S. C. Belden.
Hoxie	Sheridan	2,700	12	28.8[a]	− 0.9	66[a]	25	− 1[a]	6	39[a]	0.31	+ 0.01	0.25	2.5	2	18	1	11	nw.	C. T. Dallam.
Jewell	Jewell	1,540	5	24.2	.....	47	28	−16	6	31	0.80	.....	0.60	2.0	3	21	2	8	s.	C. A. Shinn.
Lawrence	Douglas	997	42	29.5	+ 2.9	61	25	− 2	5†	32	1.91	+ 0.67	1.23	7.0	5	12	8	11	nw.	Prof. H. P. Cady.
Lebanon	Smith	1,812	12	23.8	.....	46	24	−12	5	27	0.34	− 0.06	0.22	3.5	3	16	8	7	n.	Earl V. Bower.
Lindsborg	McPherson	1,333	4													21	0	10	nw.	J. R. Lynch.
Mankato	Jewell	1,784	1	24.4		46	24	−13	15	30	0.32		0.20	3.0	3	17	5	9	n.	R. M. Cauthorn.
Minneapolis	Ottawa	1,259	20	27.1	− 1.3	55	25	−12	6	27	0.96	+ 0.45	0.56	4.5	2	11	7	13	nw.	J. L. Steele.
Moran	Allen	1,098	14	33.6	+ 1.9	69	25	− 4	6	35	0.69	− 0.52	0.55	1.0	3	13	6	12	nw.	C. J. Norton.
Matoma	Osborne	1,834	1								0.52		0.50	5.2	2	16	7	8	se.	C. O. Hunt.
Norton	Norton	2,284	12	26.2	− 0.8	61	25	− 7	5	36	0.53	+ 0.07	0.50	5.2	2	17	4	10	nw.	Sim Sleffel.
Oberlin	Decatur	2,539	23								0.19	− 0.22	0.19	2.0	1	19	9	3	nw.	I. K. Huber.
Oketo‡	Marshall	1,194	2	29.1[a]		52[a]	25	−13[a]	6	39[a]	1.10		0.58	5.0	4	6	13	11	sw.	J. A. Church
Olathe	Johnson	1,032	15	29.4	− 0.4	62	25	−13	6	33	2.21	+ 1.15	1.42	7.5	5	15	3	13	nw.	Dr. S. B. S. Wilson.
Osage City	Osage	1,081	11	30.9[a]	.....	64[a]	25	−15[a]	6	32[a]	1.74	+ 0.94	0.95	5.7	3	17	2	11	nw.	W. C. White.
Ottawa	Franklin	926	16	29.8	.....	67	25	−16	6	43	1.83	+ 0.54	1.04	5.2	4	9	9	13	nw.	Dr. W. J. Newton.
Phillipsburg	Phillips	1,939	19	25.7	− 1.3	55	31	−11	5	33	0.40	− 0.14	0.30	4.0	3	15	7	9	nw.	N. E. Bailey.
Plainville	Rooks	2,156	5								0.25		0.25	3.0	1	15	10	6	n.	John Pedroja.
Pleasanton	Linn	862	8	32.2	.....	65	25	− 3	6	26	1.09	.....	0.51	2.0	3	16	4	11	nw.	B. F. Blaker.
Republic	Republic	1,495	8																	Grafton Nutter.
Russell	Russell	1,834	11	27.4	− 2.8	62	25	−16	6	37	0.81	+ 0.07	0.56	3.0	2	15	5	11	sw.	Robert Brebner.
St. Francis	Cheyenne	3,288	2	27.4	.....	66	31	− 6	5	41	0.20	.....	0.17	2.5	2	7	17	7	sw.	J. E. Uplinger.
Salina	Saline	1,227	26	27.8	− 1.4	53	26	−15	6	32	1.16	+ 0.41	0.65	5.0	4	14	8	9	sw.	Prof. A. W. Jones.
Scott	Scott	2,971	4	29.4	.....	70	25	−17	5	40	1.02	.....	0.79	4.5	2	16	10	5	n.	J. P. Loughran.
Smith Center	Smith	1,800									0.39		0.20	2.8	4	21	7	3	nw.	W. H. Nelson.
Topeka	Shawnee	997	24	28.8	+ 3.2	63	25	− 5	6	27	2.42	+ 1.49	1.37	6.4	4	13	7	11	nw.	U. S. Weather Bureau.
Valley Falls	Jefferson	913	11	28.6	+ 0.9	59	25	−17	6	33	1.65	+ 0.81	1.08	5.7	5	14	6	11	nw.	Miss Nettie Maxwell.
Vinland‡	Douglas	880	1	30.8	.....	63	25	−19	6	36	1.95	.....	1.17	5.5	5	7	9	15	nw.	A. Schick.

TABLE 1.—*Climatological data for January, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kansas—Cont'd.																			
Wakeeney	Trego	2,456	27	29.0	− 0.2	67	25	−10	5	38	0.35	− 0.23	0.31	4.0	3	18	4	9	nw.	A. S. Peacock.
Wallace	Wallace	3,303	40	29.3	.....	70	24	− 7	6	42	0.07	− 0.17	0.07	2.0	1	6	16	9	nw.	M. T. Griggs.
Wamego‖	Pottawatomie	1,032	17	.....	.....	.....	.....	.....	.....	.....	1.80	+ 1.07	1.15	6.5	3	11	9	11	nw.	M. L. Stone.
Missouri.																				
Amoret	Bates	850	1	31.8	.....	66	25	− 2	5	36	0.94	.....	0.45	8.6	4	12	5	14	sw.	Darby Fruit Farm.
Appleton City	St. Clair	853	20	31.4	− 0.5	59	1†	1	6	28	0.75	− 1.62	0.60	5.5	2	14	13	4	sw.	T. C. Brown.
Arlington	Phelps	695	20	.....	.....	.....	.....	.....	.....	.....	2.29	+ 0.42	1.27	T.	2	12	2	17	se.	P. W. Andres.
Arthur	Vernon	767	18	36.6	+ 5.0	72	25	1	6	36	1.97	+ 0.04	1.00	1.0	2	11	12	8	nw.	J. T. Armstrong.
Avalon	Livingston	.....	25	28.0	− 0.4	59	25	−10	6	35	2.14	+ 0.20	1.30	8.0	5	17	6	8	nw.	F. G. Ashbaugh.
Bagnell	Miller	594	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. S. Brockman.
Bethany	Harrison	881	20	25.8	+ 0.7	57	27	−24	6	33	1.34	− 0.14	0.74	7.0	5	14	4	13	nw.	W. H. Skinner.
Bolivar	Polk	1,070	22	35.4	+ 0.6	65	1†	4	6	39	1.57	− 0.45	1.06	T.	4	11	10	10	sw.	E. Waltz.
Boonville	Cooper	600	34	.....	.....	.....	.....	.....	.....	.....	2.36	+ 0.36	0.56	5.2	5	14	1	16	nw.	C. Randecker.
Brunswick	Chariton	652	32	28.2	− 0.3	60	25	−10	6	39	1.93	+ 0.22	0.72	6.0	7	15	2	14	nw.	Louis Benecke.
Clinton	Henry	800	24	33.6	.....	69	25	0	6	30	2.05	+ 0.01	0.91	3.7	4	19	4	8	s.	Dr. G. W. Menees.
Columbia	Boone	784	21	30.2	+ 3.0	62	25	0	6	30	2.36	+ 0.13	1.48	3.5	9	12	8	11	e.	U. S. Weather Bureau.
Conception‖	Nodaway	982	26	25.0	0.0	53	25	−15	6	27	0.97	− 0.13	0.50	7.0	3	10	10	11	nw.	Fr. Adhelm Hess.
Darksville	Randolph	826	19	29.8	+ 0.9	60	25	− 7	6	37	1.87	− 0.15	1.55	1.0	3	12	5	14	w.	W. H. Broaddus.
El Dorado Springs	Cedar	753	5	37.6[a]	.....	69[a]	26	4[a]	6	37[a]	0.81[a]	.....	0.51[a]	T.[a]	1[a]	10[a]	8[a]	12[a]	sw.	Samuel Graham.
Fairport	De Kalb	920	16	.....	.....	.....	.....	.....	.....	.....	2.50	+ 1.30	0.60	11.7	6	19	2	10	sw.	J. W. Lincoln.
Fayette‖	Howard	725	27	29.8	+ 2.0	61	25†	− 3	6	30	1.93	− 0.22	1.23	3.0	3	16	2	13	.....	Prof. T. Berry Smith.
Fulton	Callaway	818	19	32.2	+ 1.3	61	25	1	6	29	2.93	+ 0.27	1.83	3.0	7	8	11	12	w.	Dr. J. L. Brenneman.
Gallatin	Daviess	803	18	.....	.....	.....	.....	.....	.....	.....	2.10	+ 0.86	1.00	5.5	4	15	2	14	nw.	Dr. W. P. Young.
Glasgow	Howard	618	33	.....	.....	.....	.....	.....	.....	.....	1.68	− 0.05	0.63	6.0	6	16	6	9	w.	J. J. Shaughnessy.
Grant City	Worth	1,130	18	24.3	.....	48	19	−16	6	35	1.20	+ 0.20	0.50	9.0	5	14	3	14	nw.	W. H. Campbell.
Harrisonville	Cass	912	38	29.0	+ 1.7	66	25	− 5	7	37	2.65	+ 1.08	1.10	4.0	4	16	1	14	sw.	A. J. Sharp.
Hazelhurst	Livingston	.....	17	.....	.....	.....	.....	.....	.....	.....	1.80	+ 0.50	0.90	4.5	6	.....	.....	.....	.....	W. H. Baker.
Hermann	Gasconade	482	36	.....	.....	.....	.....	.....	.....	.....	2.80	+ 0.52	1.68	0.6	8	12	5	14	w.	C. T. Maushund.
Houston	Texas	1,280	18	34.6	+ 0.3	68	1	3	6	38	1.15	− 1.20	0.55	T.	3	10	12	9	s.	E. Dempsey.
Huntsville	Randolph	790	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. H. Hammett.
Jefferson City	Cole	628	29	29.8	− 0.6	63	25	0	6	40	2.06	− 0.30	1.08	5.3	5	18	1	12	w.	Miss Emma Swift.
Kansas City	Jackson	963	21	30.6	+ 4.4	64	25	− 4	6	25	2.06	+ 0.93	1.33	6.1	3	11	8	12	nw.	U. S. Weather Bureau.
Kidder	Caldwell	1,017	20	27.4	+ 0.7	57	25	−10	6	26	1.67	+ 0.32	0.62	5.5	6	18	5	8	nw.	J. F. Sharp.
Lamonte	Pettis	863	22	31.0	.....	64	25	− 5	6	29	2.14	+ 0.37	1.27	3.5	5	12	10	9	sw.	J. R. Wade.
Lebanon	Laclede	1,265	22	35.0	+ 1.4	65	25	5	5	35	1.73	− 0.79	0.90	T.	3	11	8	12	w.	M. W. Serl.
Lexington	Lafayette	813	27	30.1	+ 2.7	61	25	− 4	6	30	1.72	+ 0.11	0.60	5.0	6	18	0	13	s.	J. W. Keithley.
Liberty	Clay	864	22	29.5	+ 0.8	61	25	−10	6	31	2.22	+ 0.85	1.12	5.5	3	16	5	10	s.	W. C. Wilmott.
Lockwood	Dade	1,088	16	36.2	.....	69	25	6	7	31	1.69	+ 0.12	0.59	T.	3	12	7	12	nw.	C. S. Crow.
Marshall	Saline	779	20	28.6[a]	+ 0.1	64[a]	25	− 6[a]	6	31[a]	2.79[a]	+ 0.91	1.85[a]	4.5[a]	8[a]	13[a]	4[a]	13[a]	nw.	Dr. W. H. Black.
Marshfield	Webster	1,492	2	37.3[b]	.....	72[a]	25	8[b]	7	38[b]	2.00	.....	1.00	1.0	4	8[f]	8[f]	9[f]	w.	Dr. J. P. Keller.
Maryville	Nodaway	1,160	20	22.1	− 1.3	41	10	−16	6	42	1.33	+ 0.16	0.85	10.0	3	19	3	9	n.	J. R. Brink.
Mount Vernon	Lawrence	1,480	24	36.2	+ 1.3	70	25	0	5	41	1.05	− 1.15	0.50	T.	4	11	10	10	nw.	Dr. O. H. Brown.
Nevada	Vernon	860	16	.....	.....	.....	.....	.....	.....	.....	1.80	+ 0.04	1.70	1.0	2	24	2	5	nw.	C. Jewell.
New Palestine	Cooper	795	18	37.8	+ 4.4	66	26†	5	6	44	2.21	+ 0.28	1.85	4.2	3	16	5	10	sw.	A. I. Zeigle.
Oregon	Holt	1,113	55	24.4	+ 0.8	52	25†	−15	6	27	1.93	+ 0.39	1.00	9.2	4	17	3	11	nw.	Tom Curry.
Osceola	St. Clair	738	11	.....	.....	.....	.....	.....	.....	.....	1.89	− 0.67	0.67	9.2	5	17	5	9	nw.	W. E. Matthews.
Rolla	Phelps	1,092	29	34.2	.....	67	1	2	6	29	2.18	− 0.20	0.87	1.1	7	14	5	12	sw.	Prof. P. J. Wilkins.
St. Charles	St. Charles	614	32	31.8	+ 0.6	60	1	3	6	30	2.51	+ 0.18	1.10	2.5	5	10	8	13	nw.	L. C. Saeger.
St. Joseph	Buchanan	825	39	26.6	.....	56	25	−13	6	25	1.67	+ 0.50	0.78	6.2	6	7	12	12	.....	U. S. Weather Bureau.
St. Louis	.....	567	39	32.6	+ 1.6	61	1	3	6	25	2.73	+ 0.46	1.47	1.0	8	7	9	15	nw.	U. S. Weather Bureau.
Sublett	Adair	1,000	30	26.4	0.0	51	25†	−17	6	33	0.45	− 1.28	0.40	4.5	2	8	10	13	w.	Lewis Spriggs.
Trenton	Grundy	813	15	27.4	0.0	50	25†	−16	6	32	1.55	+ 0.13	0.79	3.5	4	14	1	16	nw.	J. H. Flesher.
Unionville	Putnam	1,072	17	23.0	− 1.4	54	26	−14	6	32	2.52	+ 0.47	1.35	7.5	7	13	10	8	nw.	Geo. W. Davis.
Warrensburg	Johnson	883	32	32.1	+ 3.7	68	25	− 4	6	31	2.07	+ 0.28	1.09	1.5	6	12	7	12	nw.	A. F. Smithson.
Warrenton	Warren	865	20	29.4	− 0.1	59	25	0	6	38	2.81	+ 0.21	1.65	5.5	7	7	9	15	s.	Dr. John H. Frick.
Warsaw	Benton	700	6	36.2	.....	78	25	5	6	41	2.03	.....	0.97	3.5	6	12	8	11	w.	Dr. J. R. Smith.
Wheatland	Hickory	920	18	.....	.....	.....	.....	.....	.....	.....	1.81	− 0.22	1.50	1.0	3	17	5	9	s.	Mrs. S. A. Jackson.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
¶ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 6, Missouri Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Arapahoe	Big Horn																																
Barnum	Powder	.50																.25															0.75
Basin	Big Horn	.13																								.10							0.23
Bennett	North Platte																																
Big Creek	...do											.02	.13			.04	.06									.07	T.	T.		.10			0.42
Casper	...do	.20																.05												T.			0.25
Cheyenne	South Platte	.03	.08	.07	.07								T.				T.	T.								T.				.04			0.29
Chugwater	North Platte	.10		.20														T.															0.30
Clark	Clark's Fork	.25	.17																	T.													0.42
Cody	Big Horn	.30																															0.30
Crystal Lake	South Platte																																
Dome Lake	Tongue	.20	.30																							.40							0.90
Douglass	North Platte		.14														.22									.23				.10			0.69
Dubois	Big Horn	.25	.90													T.	.10			T.					T.		T.			T.			1.25
Eaton's Ranch	Tongue	.70	.20											.20												.20				.20			1.50
Echeta	Powder	T.			.10																									.10			0.20
Elk Mountain	North Platte		.10		.07			.43					.18					.10													.38			1.26
Encampment	...do	.20	.03	.08	.11	.01						.04	.13				T.	T.								T.	T.	T.	T.	T.			0.60
Ervay	...do		.21	T.	T.	T.											.10									.15			T.	.04			0.50
Fort Laramie	...do		T.	.02	.25													T.									.01			T.			0.28
Fox Creek Station	...do																						.51				.04			.09			0.64
Gillette	Powder	.10			.05	T.							.10					.10		T.						T.	.05		.10				0.50
Granite Canyon	South Platte	.10																T.									T.						0.10
Hunters Station	Powder				.08	.03												.11								.21	.04						0.47
Hyattville	Big Horn																																
Kirtley	Niobrara	.40	.10	.12																	T.									.16			0.78
Kirwin	Big Horn	1.40														.30	.60		T.	.10					.10	.05	T.		.10				2.65
Knowles	Belle Fourche	.21	.03		.15			.04												.10							T.	T.	.21				0.74
Lander	Big Horn	1.72	.24	.05	.01												.02								.02				T.				2.06
Laramie	North Platte			.14								.02					.03									T.			T.				0.19
Leo	...do	.23	.08	.10	.05	.02	T.					.02	.02					.23								.02				.07			0.84
Lolobama Ranch	Big Horn	.35													.10																		0.45
Lovell	...do	.04	.18			T.	.05																			T.							0.27
Lusk	Niobrara																																
Luther	South Platte		.10		T.																												0.10
Manville	Niobrara	.10	.10	T.	.05														.10							T.	.10						0.45
Moorcroft	Belle Fourche							.20								.10												.10					0.40
Moore	North Platte																																
Newcastle	S. Fork. Cheyenne	.20	.10		.10	.10		.20	.20				.30					.30		T.						.05	.20	.10					1.85
Pathfinder	North Platte	.24	.04	.02	.01								T.					.01															0.32
Phillips	...do	T.	.05	T.	.20																									T.			0.25
Pine Bluff	South Platte																																
Powell	Big Horn																									.03							0.03
Rawlins	North Platte	T.	.04	.02	.03	T.	T.					T.	T.					.05								.02	T.	T.	T.	.02			0.18
Riverton	Big Horn																																
Saratoga	North Platte			.13	.11								.12															T.		T.			0.36
Sheridan	Tongue	.25	.04		T.			T.					T.							T.						T.			.02				0.31
Shoshone Dam	Big Horn	.36	.27																														0.63
Soldiers' Home	Powder	.30			.10																												0.40
South Pass City	North Platte	.79	.25	.02	.01	T.				.04	.02					.11	.03	.04		T.			T.			T.	T.		T.	T.			1.31
Thermopolis	Big Horn	.30			.62													T.								T.							0.32
Upton	Cheyenne																																
Valley	Big Horn	1.30	.10																							.15							1.55
Verona	Tongue																																
Wiley	Big Horn	.30	T.		T.																												0.30
Wyncote	North Platte				.10																												0.10
Yellowstone Park	Yellowstone	.94	.12		.04		.02			.03	T.	.01			.04	.21	.07		.10	.06		T.	.02	.08	.11	.01		.04					1.90
(1) Fountain Hotel	Madison		2.97				.11			T.	.09				.11		.50			.12			.09	.20								4.19
(2) Grand Canyon	Yellowstone	1.49	.50					.10				.26				.38													34				3.07
(3) Lake Hotel	...do	.99	.43			T.		.03	T.	.07	.06	T.	T.		.06	.40	.25		.06	.06			.10	.16	.22	.08	.03	.03	.07				3.10
(4) Norris Basin	...do		2.00								.21						.55							.31			.26		.18				3.51
(5) Riverside	Madison	1.02	.40								.26				.01	.50	.20			.20				.01					.03				2.63
(6) Soda Butte	Yellowstone	.55	.32								.25		T.			.25	.10									.25	T.		.10	.08			1.90
(7) Sylvan Pass	Big Horn																																
(8) Thumb	Yellowstone	.95	.64					.18		.29					.16	.52	.62		.39	.17					.40	.13		.12	.26				4.83
(9) Tower Falls	...do	1.30	.20											.03		.50	.15										.11						2.29
(10) Upper Gey. Basin	Madison	2.30														.10			.09							.20			.12				2.81
Montana.																																	
Adams	Yellowstone				T.		T.	T.												T.	T.				T.								T.
Adel	Missouri	.20	.40		.40															T.									T.	.30			1.30
Agricultural College	Gallatin	.55			.08	.03										.03				.01						.11			.01				0.82
Augusta	Sun River	.10			T.																									.10		.06	0.26
Babb	Milk River	.10									T.																		.20			.40	0.70
Bald Butte	Missouri	.06	.29		.05	T.		T.											.06	.10			T.		T.	T.	.04		.07	.03			0.70
Big Creek	Yellowstone	.85	.23														.28									.05			.12				1.53
Big Timber	...do	.35	.25														.07												.06				0.73
Big Timber Creek	...do																																
Billings	...do	.20	.16	.01																								T.						0.37
Boulder Nursery	Jefferson																																
Bowen	...do	.10															.16		.21	.03			.07						.12				0.69
Bridger	Yellowstone	.18	.07														T.																0.25
Broadview Exp. Sta	...do	.60	.13														.12		T.							T.							0.85
Busby	...do	.12	.15		.06	.08		.02					.07													T.			.10	.05			0.65
Busteed	...do	.52	.24		.01	.07		.02									.09			T.					T.	T.			T.				0.95
Butte	Jefferson	.35			T.										T.	.05			T.	.10			T.	T.	.10				.10			T.	0.70
Canyon Ferry	Missouri	.04	.23		.17			.10									T.												T.				0.54
Cascade	...do	.15	.31		.08	T.														.01					T.				.01	T.		.03	0.59
Cataract Creek	Jefferson	.35			.01	T.	T.				.02			.01					.02	.06			.03					.01		.33	T.		0.84
Chessman Reservoir	Missouri	.30	.40			.12									T.		T.		T.	.04			T.		T.	T.			.16	.10			1.12
Chester	...do																																
Chinook	Milk River																																
Chouteau	Missouri				.05																												0.05
Clear Creek	Milk River																																
Clemons	Missouri	.02		.02															T.						T.				.07		.03	.01	0.15
Copper	Musselshell	.23	.35		.05	.18	T.	.06							T.		.12		T.	.03					T.	T.	.03			.05			1.10
Crow Agency	Big Horn	.30	.20		.30	.20																				T.			T.	.02			1.02
Culbertson	Missouri						T.										.20			T.					T.					.20			0.40
Cut Bank	Marias																												T.				T.
Decker	Tongue																						.20										0.20
Deep Creek	Missouri																																
Delphine	Musselshell	.40	.03														.04				T.								T.				0.47
Denton	Missouri																																
Dillon	Jefferson	.40	.12		.05		T.					.05					.12			.05				.10		.10			.20				1.19
Drty Creek	Musselshell	.23	.43			T.		T.									.04			T.						T.	T.		.06	T.			0.76

TABLE 2.—*Daily precipitation for January, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana—Cont'd.																																	
Dry Creek	Missouri																.09			.06					T.	T.			.07	.11			1.00
Dry Wolf Camp	do	.11	.42	.01	.05	.08											.10			.05						.19			.02				0.96
East Gallatin River	Gallatin	.28	.09			.15		.08																						.08			0.43
Ekalaka	Little Missouri	.07	.09	.03	.05			.06					.05																				
Elkhorn	Jefferson	.22	.26	T.	.03	T.	.04	T.									.01		.08	.03			T.		T.	T.	T.		.16	.05			0.88
Evans	Missouri																																
Fallon	Yellowstone		.14			.15	T.													T.												0.29
Family	Marias																T.												.02				0.02
Fish Creek	Jefferson	.55													T.							T.			T.	.40			T.				0.95
Fishtail Creek	Yellowstone	.40	.16														.05																0.61
Flathead Creek	do	.25				.27		.13									.16			.12								.15	.24				1.32
Forsyth	do	.30	.30					T.	.10																				T.	.05			0.75
Fort Benton	Missouri	.10																													.34		0.44
Fort Shaw	Sun River	.03	.02		T.																								T.		T.		0.05
Foster	Big Horn	.11	.15		.05	T.											T.									T.			.04				0.35
Garneil	Musselshell	.06	.30																						.06								0.42
Glendive	Yellowstone		.05		.03															.04					.07								0.20
Goldbutte	Marias	T.			.02	.15											T.							.05				.02				0.24
Graham	Powder	.06	.06		.10	T.							.28							.01									T.	.10			0.61
Grayling	Madison	.63	.60							.07	T.	T.				.72	.16			.19				.07			.04		.37			T.	2.85
Great Falls	Missouri	.21	.08		.03															T.					T.				.04				0.36
Half Moon Pass	Musselshell	.04		.40	.03	.08	T.	.01	T.								.02			T.							.01	.02					0.61
Half Way House	Missouri	.83	1.14		.18	.36	.34													.11									.19				3.05
Harlowton	Musselshell																																
Hassel	Missouri	.27				.03	.05																										0.35
Havre	Milk River	T.			.02	.10		.12									.08								T.				T.			.12	0.44
Helena	Missouri	.36	.23		.04		T.	T.								.03			T.	.01					.03	T.	T.		.10		T.		0.80
Highwood	do	T.	.23		T.	.20														T.									.20				0.63
Homepark	Jefferson	.17	.33																	T.						.08		T.					0.58
Huntley	Yellowstone		.47																														0.47
Jones Canyon	Gallatin	.94	.04													.16				T.						.36			.16			.16	1.72
Jordan	Missouri																																
Kleinsmith Creek	Jefferson	.01	.60		T.	T.	T.	T.							T.		.02			.12									.11				0.86
Lewiston	Missouri	.20	.70	.20	.10	.20	T.																										1.40
Livingston	Yellowstone	1.04	.15				.05										.06			.02						T.			.03				1.35
Lodge Pole Creek	do	.73	.16														.28			.10									.20				1.47
Lonetree	Missouri				.10	.08																							.10				0.28
Lost Horse Creek	Musselshell	.58	.14														.07			T.							T.	.01					0.80
Malta	Milk River				T.	T.	T.	.09									T.			T.													0.09
Meadow Creek	Madison																		.10								.40						0.50
Melstone	Musselshell																																
Mildred	Yellowstone	.05			.02		.03	T.												T.						T.			T.				0.10
Miles City	do	.32	.16	.03	.15	.01	T.	.1					.06							.03						T.			.08				0.94
Mill Creek	do	.57			T.												.28		.05							.02			.05				0.97
Moore	Missouri	.33	.27	T.	T.	T.																							T.				0.60
Mudd Creek	Jefferson																																
Norris	Madison	2.24	.05			.04																			.20								2.53
Nye	Yellowstone	.95	.26														.18													T.	.06		1.45
Olsen Creek	Jefferson	.11	.19			.08											.30			.20						.07			.12				1.07
Pipestone Pass	do	.72	.19		T.	.02			T.						.01	T.	T.			.05						.04		T.	.02				1.05
Poplar	Missouri				T.	T.		.12									T.			.15					T.					T.			0.27
Raymond	do																T.		T.	T.							T.		.08		.04	.02	0.14
Red Lodge	Yellowstone	.68	.04														.04																0.76
Reese Creek	Gallatin	.62																								.42	.23						1.27
Renova	Jefferson	.29	.30														T.			T.						T.			T.				0.59
Rimini	Missouri	.07	.45		T.										T.		.17		T.	.06			T.				T.						0.75
Ryegate	Musselshell	.10	.10																						T.	T.			T.				0.20
Sedan	Yellowstone	.33	.23	T.													.05			.05			T.			T.			.04				0.70
Springbrook	do																																
Stearns	Missouri		.16																.22										.15				0.53
Three Forks	Madison																																
Tokna	Yellowstone				.20		.05													.15					.07								0.47
Townsend	Missouri																																
Trail Creek	Yellowstone	.23	.09		.01	.02		.03									.04			.02						.03			.07				0.54
Utica	Missouri	.20	.60		.40																												1.20
Valentine	Musselshell	.03	.15			T.											T.										T.						0.18
Virginia City	Jefferson & Madison	.06	.03					T.		T.																.09			T.				0.18
Wall Rock Mountain	Missouri	.50	.04		.06	.05	.01	.14		.01					T.		.05	T.		.18							.03		.14				1.21
Warm Springs Creek	Madison																																
West Rosebud Creek	Yellowstone	.60	.10														.03			.05														0.78
Willow Creek	do	*	.74		*	.01										*	*	*	.07	.08						*	*	.07	.27				1.24
Wolf Creek	Missouri			.35	.26															T.			T.				.05						0.66
Wolf Point	do																																
Woodville	Jefferson	.14	.29		.02	.06									.02		.05			.02						.11			.06				0.77
North Dakota.																																	
Aplin	Knife					.10		.02													.10												0.22
Beach	Little Missouri		.32		.34	.23	.07													.15		.05											1.31
Berthold Agency	Missouri				.12	T.	.04		T.				T.							.04		T.											0.20
Bismarck	do		.21		.27			.02	T.	.01										.03	.03	T.							T.	T.			0.57
Broncho	Knife				.15	.14			.25											T.													0.54
Buford	Missouri				.10	T.	.05	T.								T.				T.					T.					T.			0.15
Coal Harbor	do				.10															.05													0.15
Dickinson	Hart	T.	.08	.08	.15	.02		.01												T.	T.									T.			0.34
Edgely	James		*	.05	.09																												0.14
Ellendale	do	T.	T.		T.	T.															.10												0.10
Epping	Missouri				.05	.04	.02	.02									.05								.10					T.			0.28
Fullerton	James	.12	.40		.10	.14	T.	T.							T.					.14					T.				.06				0.96
Haley	Grand	.10	.16	.23	.15	.22		T.					.26							T.			T.										1.12
Hettinger	Cannon Ball	.10	.20		.10								.20																				0.60
Howard	Missouri				.20												.25			.25	.20				.20							T.	1.10
Jamestown	James	.10	.15		*	.15																											0.40
Lamoine	Missouri				.10	.10														.10									T.				0.30
LaMoure	James																																
Mc Henry	do	.05			.05	.02											T.			.02										T.			0.14
Manfred	Sheyenne				.10																									.10			0.20
Marmarth	Little Missouri	.02	.08		.05	T.	T.	.02					.07							.08					T.					.03			0.35
Marstonmoor	James	T.			.05	T.				T.											T.				T.			T.	T.			0.05
Medora	Little Missouri	*	.41	*	.40															T.									T.				0.81
Melville	James	T.			T.																				T.								T.
Mott	Cannon Ball	.16	.25	T.	.23	T.	.10						T.							.03									.07				0.74
Napoleon	Missouri	.10	.10		.10															.05													0.35
New England	Cannon Ball																																
New Salem	Heart	.05	.05		.08			.01		T.										.02					.01				T.				0.22
Orange	Cannon Ball		.40		.20			.20																					.10				0.90

TABLE 2.—*Daily precipitation for January, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota—Cont'd.																																	
Palermo	Missouri				.10																												0.10
Schafer	Little Missouri				.10			.05												.08					T.					.05			0.28
Steele	Missouri																																
Swartwood	Grand																																
Washburn	Missouri				.03	.02															.03												0.08
Williston	do																																
Wishek	do	.10	.25	.05	T.			T.		T.																							0.40
South Dakota.																																	
Aberdeen	James		T.	.10	T.	.20	T.							.20							.02						T.		T.		T.		0.52
Academy	Missouri	T.	.05		.55				T.				.30					.15							T.	T.				.05			1.10
Alexandria	James				.60								.98																				1.58
Ardmore	Cheyenne		.05		.20		.05																										0.30
Armour	Missouri	.10	.05	.20	.80		.03						.50													.03							1.71
Belle Fourche	do	.12	.07		.07		T.		T.				.17							T.							T.		.21			0.64
Bowdle	Missouri																																
Brookings	Big Sioux		.08	*	.50			T.					*	.30		*	.10	T.								*	.10	*	T.				1.08
Burke	Missouri				.60		T.						.40					T.			T.									.05			1.05
Canton	Big Sioux	T.			T.								.55																				0.55
Cascade Springs	Cheyenne	.15	.05		.80													.20															1.20
Castlewood	Big Sioux	T.	.07	T.	.03	T.		T.	T.					T.		T.	T.	.02			.03				T.	T.	.10			T.			0.25
Centerville	Missouri	T.	.04	.02	.40		T.	T.	.02				.40					.05									.10			T.	T.		1.03
Chamberlain	do				.36								.44					.20															1.00
Clark	James	T.	.05		.50	T.	T.	T.					T.	.10		.05	.10				.20				T.		.05						1.05
Clear Lake	Big Sioux																																
Cottonwood	Missouri	.03	.04		.12		.01		.01				.09	T.				.11		T.						T.				.25			0.60
Daviston	Grand	.40			.10	.05							.35																	.05			0.95
Deadwood	Cheyenne		.10			.17												.15		.10						.80			1.65			2.97
Deerfield	do	.08	.18		.12	.05		.02	.01				.12					.23	.02		T.					T.	.10		.05			0.98
De Smet	James	T.			.60		T.	T.					.20	.40	.20	T.	T.	T.							T.		.60						2.00
Dowling	Cheyenne	T.	.20		.15			T.	.20				.50	.10				.15												.30			1.60
Dumont	do	.38	.26	.13		.14	.12	.44	.13								.43			.19						T.	1.13		.19	1.05			4.59
Elk Mountain	do	*	.51	.32							.15							.11								T.	T.			.07			1.16
Elk Point	Missouri	T.	T.	T.	.60								.10	.50											T.		T.		T.	T.	T.		1.20
Ellingson	Grand			.28									.15																				0.43
Englewood	Cheyenne	.12	.07	.68	.05	.08	.11	.07	.15				.08					.22			.12						.62	.08		.63			2.48
Eureka	Missouri		.10		.30	.20															T.				T.								0.60
Faulkton	James		.05		.16			T.					T.	T.				T.															0.21
Flandreau	Big Sioux				.20									.20				.30															0.70
Forestburg	James	T.	.12		.52		T.						2.00					T.			T.												2.64
Fort Meade	Cheyenne	T.							.01				.10				.20			.01						.10			.15				0.57
Frederick	James		.24		.20															T.													0.44
Gannvalley	Missouri	.05	.10		.50								.50					.10							.02					T.			1.27
Greenmont	Cheyenne	.20			.10			.10					.10					.10		.05						.30			.90				1.85
Greenwood	Missouri		.05		.50								.40					.05												T.			1.00
Hardy Ranger Station	Cheyenne	.24	T.	T.	T.	.25	.11	.19	.09				T.					.33		.12						T.	.70	.18		1.20			3.41
Harveys Ranch	do	.30	.11		.42			.30					.10					.50		.28						.78		.51		.59			3.89
Hermosa	do		.09		.39								T.	T.				.18												.05			0.71
Highmore	Missouri		.10		.08	.01							.28	.28				.07												T.			0.82
Hill City	Cheyenne	.10	.13	T.	.13								.07					.16									T.	T.		T.			0.59
Hopewell	do	*	1.56		.20			T.					.40					.65												.25			2.46
Howard	James	T.	.07		.15			T.					.90		T.			.18			.04				T.	T.	.08						1.42
Howell	do	T.	.20		.34	.01	T.	.01					.28	.23				.15							.09								1.31
Huron	do	.04	.02		.25	T.	T.	T.					1.00	.10				.04		T.	.01				T.	.01	.02		T.	T.	T.	T.	1.49
Ipswich	do	T.	T.	T.	.20	T.		T.					T.	T.	.10						T.												0.30
Kadoka	White	T.	.07		.20			T.					.11	T.				.14												.30			0.82
Kennebec	Missouri	.10	.20		.50			.10					.50					.20												.10			1.70
Kidder	James		.05		.20	T.	T.				.20												T.		T.	T.	.09		T.	T.	T.		0.54
Kimball	Missouri	T.			.25								.34					T.							T.								0.59
La Delle	James	T.	.15		.40	.03	T.	.01					T.	.20										T.						T.			0.79
Lead	Cheyenne	.13	.11		.08	.14	.05	.04					.04					.17		.07						.59				.96			2.38
Lemmon	Grand	.20	.10		.20		T.	.10					.10							T.										.10			0.80
Leslie	Cheyenne																																
Marion	Missouri	T.	.06		.72	.05							.73	1.54	T.			.04			T.						.65		T.				3.79
Marston	do	.05			.20								.70																				0.95
Mellette	James		.04		.26			T.	T.					.04							T.						T.						0.34
Menno	do		.05		.34				.02				.46	.10				.02									.58						1.57
Milbank	Minnesota			.09		.48															.12						.08	.03					0.80
Mitchell	James	*	.14	*	.44								*	1.00				.36								*	.10						2.04
Murdo	White		.20		.30								.60					.60															1.70
Oelrichs	Cheyenne	T.		*	.20												*	.10												T.			0.30
Orman	do			T.	.30								.50	.10						T.										.10			1.00
Ottumwa	Missouri	.10			.20			T.					.60	.10				.10												.40			1.50
Pierre	do	.15	.06		.20			T.					.44					.05							T.					.04			0.94
Plankinton	James	T.	T.	T.	.33		T.	T.					*	.45				.22															1.00
Rapid City	Cheyenne	.15	.06	.05	.16			.01					.09		T.		.05	.12		.03						.04			.13	T.			0.89
Redfield	James				*	.60								.50																			1.10
Rochford	Cheyenne	.30	T.	.13	T.						.13						.20			.05			T.			.13	.02		.12				1.08
Rosebud	White	T.	.20		.60		.05		.05				.30	T.	T.			.20									.05	T		.30			1.75
Roslyn	Big Sioux	.05	.05	.02	.25	T.	T.	.02	T.								.05				.12				T.	T.	.02		T.	.04	T.		0.62
Savoy	Cheyenne																																
Selby	Missouri					.61							T.																				0.61
Sioux Falls	Big Sioux		.06		.16	.21		T.	T.	T.	T.		.68	.28				.15								T.	T.						1.54
Spearfish	Cheyenne	.23			T.								.02			.03				T.							.02				.23		0.53
Stephan	Missouri	*	*	.10	.20	T.	T.	T.					.25	.05				.08							T.		T.		T.				0.68
Tama	Cheyenne	.20	.10	.05	T.		*	.08	T.				.30	T.						.02						.03			*	.40			1.18
Vale	do		.10		.13			*	.10				.22	T.	T.															.16		.17	0.88
Vermilion	Missouri		.05		.27								T.	.36													.28						0.96
Waters Ranch	Cheyenne	.19			.17								.07					.05									T.			.32			0.80
Watertown	Big Sioux	T.	T.		T.			T.								T.		T.									T.		T.	T.			T.
Wentworth	do		.09		.31								.61	.12				.33									.12			T.			1.58
Wessington Springs	James																																
White Lake	Missouri				.25								.60			.28																	1.13
Yankton	do	T.	.03	T.	.29			T.	T.				.52	.13		T.		T.							T.		.19		T.	T.			1.16
Minnesota.																																	
Pipestone	Big Sioux		.60	.10	.23									.63				.12															1.68
Colorado.																																	
Akron	Republican																																
Alma	South Platte																	.51												.15			0.76
Arriba	Republican			T.														T.															T.
Auldhurst	South Platte					T.												T.								T.							T.
Barker	do																																
Boreas	do	.02			.34		.23	.26			T.						.65	.23									.03						1.76
Boulder	do	T.		.20														T.								T.							0.20
Burlington	Republican	T.	.03											.02													T.						0.05

TABLE 2.—*Daily precipitation for January, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado—Cont'd.																																	
Cassells	South Platte			T.	T.												T.									T.	T.						T.
Castle Rock	do			T.														.10														0.10
Cheesman	do	T.	T.	T.	T.													T.										T.				T.
Cheyenne Wells	Smoky Hill																	T.														T.
Como	South Platte	T.																T.								.13				.13		0.26
Cope	Republican			.22	.26																											0.48
Corona	South Platte	.10	.08		.14	.20							.05	.28				.64	.34								.68	.66	.10	.30	.06	3.62
Denver	do	T.	T.	.09	.07													T.								T.						0.16
Edgewater	do																															
Estes P'k. Fish H'y	do	.13	.06	T.	.06				T.			T.			T.	T.	T.	.12					.09			T.	T.	T.	T.				0.46
Fort Collins	do	.03	.04	.04	.18												T.	T.														0.29
Fort Morgan	do				.05																											0.05
Frances	do		T.		.22								T.				T.	T.	.11							.12			T.			0.45
Fry's Ranch	do	.20	.03		.11								T.					.24								.12						0.70
Georgetown	do		T.	.12													.08	T.								.03	.04		.02			0.29
Greeley	do	*	.03	*	.15																											0.18
Hartsel	do			.05	.03													.01									T.	T.				0.09
Hawthorne	do		T.	T.	.09																					T.						0.09
Holyoke (near)	do	.05																														0.05
Idaho Springs	do																	.05												.03		0.08
Koesler	do			.03																												0.03
La Porte	do		.02	.02	.27																											0.31
Le Roy (near)	do																															
Longmont	do	T.	.01	T.	.06																											0.07
Long's Peak (near)	do	.04	.07										T.				.27									.07				T.		0.45
Moraine	do	.10	.05		.10								.02				T.	.05					T.			T.	T.					0.32
Platte Canyon	do			T.	T.	T.																										T.
St. Cloud	do	T.			.21													.14								T.			T.			0.35
Sedgwick	do				.20																											0.20
Sill Mine	do	.21	.20	T.	T.				T.	.53							*	.67					T.	T.		T.	.40	.30	*	.30		2.61
Spicer (near)	North Platte	.02	.01		.30								.18					.13								.03	T.	.03		.01		0.71
Sterling	South Platte		T.		.01																											0.01
Waterdale	do	*	.16																													0.16
Westlake	do	T.	T.	T.	.05													T.														0.05
Wray	Republican			*	.15																											0.15
Yuma	do		T.																													T.
Nebraska.																																
Ainsworth	Niobrara																															
Albion	Loup				.40								.10	.05																.20		0.75
Alliance	North Platte																															
Alma	Republican				.30								.03			T.	T.	T.												.08		0.41
Anoka	Niobrara		T.		.36				T.				.18	.30				.10							T.			T.				0.94
Ashland	Platte				.30								.41				T.										T.			.16		0.87
Atkinson	Elkhorn		T.		.50	.07					T.			.05				T.												.10	.10	0.82
Auburn	Little Nemaha				.30								.57				.02	.03									T.			.10		0.96
Beatrice	Blue				.60								.15																	.30		1.05
Beaver City	Republican				.19																								T.			0.19
Bellevue	Missouri				.70	T.							.46	.04				T.													.10	1.30
Blair	do				.50									.05														T.	T.			0.55
Bloomfield	do				.50								.40	.20																		1.10
Bridgeport	North Platte	T.	.05	T.	.35													T.											T.			0.40
Brokenbow	Loup					.10							.12																			0.22
Burge	Niobrara			T.		.13							.30																	.55		0.98
Callaway	Loup				.28																								T.			0.28
Cambridge	Republican				.30	T.											T.									T.		T.		T.		0.30
Canton (near)	North Platte																															
Columbus	Loup				.08	.10							T.	.16																.14		0.48
Creighton	Missouri				.33								.19	.07													.05			.03		0.67
Crete	Blue				.37										.47															.12		0.96
Culbecson	Republican			T.	.35			T.																						T.		0.35
Curtis	do				.60																									T.		0.60
David City	Blue				.31	T.							.37	.05	T.	T.	T.	T.									T.		T.	.12		0.85
Dawson	Great Nemaha		T.		.57	T.							.56	T.			T.	.01									T.			.05	T.	1.19
Elsie	Republican					.20	T.	T.																			T.				T.	0.20
Enderslake	Loup																															
Ewing	Elkhorn				.50								.45													T.				.15		1.10
Fairbury	Blue			.40	.04							.44	.08		T.		.05	T.								.05				.20		1.26
Fairmount	do				.40								T.	.20		T.											.07				.30	0.97
Fort Robinson	Niobrara		T.		.17																						.04			T.			0.21
Franklin	Republican				.40							T.	.10	T.		T.	T.	T.												.30			0.80
Fremont	Platte				.60					T.			.10	T.																.10			0.80
Fullerton	Loup				.41								T.																	.27			0.68
Geneva	Blue		T.		.60								T.		T.		T.	T.									.04			.30			0.94
Genoa	Loup	T.			.30	T.							.06			T.	T.	T.									.02			.30			0.68
Gordon	Niobrara			.75													.25									.25		.50				1.75
Gosper	Republican				.09								T.		T.	T.	T.									T.				.05			0.14
Gothenburg	Platte				.30											T.		T.												.20			0.50
Grand Island	do				.15							T.	T.																	.17			0.32
Grant	Republican		T.		.20																									T.			0.20
Greeley	Loup				.58			T.					.25																	.25			1.08
Halsey	do				.24								.20																	.24			0.68
Hartington	Missouri	T.	T.	T.	.30								.15	.10	.05	T.		T.						T.	T.	.10		T.				0.70
Harvard	Blue		T.		.08							T.														.07			.31			0.46
Hastings	do			T.	.45												T.													.10	.30		0.85
Hayes Center	Republican				.60										T.															.10			0.70
Hay Springs	Niobrara		.10	.30									T.					.10								.30			.10	.20			1.10
Hebron	Blue		T.		.50								.10					T.												.23			0.83
Hemingford	Niobrara		.02	.05	.05	.08							.01					.02			.01						.11			.04			0.37
Hillside	North Platte		T.		.12									T.													T.			.03			0.15
Holdredge	Republican				.60																									.20	.10		0.90
Hooper	Elkhorn				.15								.02																				0.17
Imperial	Republican	T.	.10		.30									T.	T.	T.	T.													T.			0.40
Kearney	Platte				.40								T.																	.30			0.70
Kimball	South Platte			.05																													0.05
Kirkwood	Niobrara			.40									.30					.05												.20			0.95
Kowanda	North Platte																															
Lexington	Platte				.60																									.05			0.65
Lincoln	do		T.		.42							.01	.49	T.	T.		T.	T.						T.		T.		T.		.23			1.15
Loup	Loup				.40																					.40				.30			1.10
Loyal	do																													.30			0.30
Mc Cook	Republican																																0.00
Madison	Elkhorn				.40								.10	.10																.10			0.70
Marquette	Platte		T.		.25								T.		T.											T.				.30			0.55
Mason City	Loup					.60																									.40			1.00

TABLE 2.—*Daily precipitation for January, 1910. District No. 6*—Continued.

Stations	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nebraska—Cont'd.																																	
Minden	Blue				.36				T.			T.	.03		T.	.01	.04									.01		.02		.36			0.83
Mitchell	North Platte			.65	T.													T.								.05				T.			0.10
Nebraska City	Missouri				1.10							T.	.70		T.	T.	T.	T.												.40			2.20
Norfolk	Elkhorn	T.			.20								.30	T.	T.	T.	T.	T.			T.					T.		T.		.05			0.55
North Loup	Loup	T.	T.		.10								.05	T.																.25			0.40
North Platte	Platte	T.	.01	.08	.20								T.	T.		T.	T.												.01	.04			0.34
Oakdale	Elkhorn	T.			.21								.20														T.		T.	.07			0.48
Omaha	Missouri				.50							.01	.36	.01	T.		T.	T.			T.						.01		.01	.04	T.		0.94
Ord	Loup					.27										.09															.32		0.68
Palisade	Republican																																
Pawnee City	Great Nemaha				.40								.60																	.05			1.05
Plymouth	Blue				.15								.35	.06				T.									.03			.20			0.79
Purdum	Loup		T.		.50								.10					T.									T.			.30			0.90
Ravenna	do		.40										T.		T.	T.	T.													.41			0.81
Redcloud	Republican		T.		.28							T.	.13				T.	T.												.13			0.54
Saint Libory	Loup				.40								T.														.20			.20			0.80
Saint Paul	do				.40								T.													T.	.08			.21			0.69
Santee	Missouri	T.			.30			T.					.40	.30				T.									T.						1.00
Sargent	Loup				.20								.10												.10					.30			0.70
Schuyler	Platte				.20								.20	T.	T.											T.			T.	.10			0.50
Scottsbluff	North Platte		.09											T.		T.		T.									.07		T.				0.16
Seward	Blue			.35	.22							.25		T.			T.													.10			0.92
Sheridan	Loup	T.			.40							.30																	.40				1.10
Sidney	South Platte		T.	T.	.30																												0.30
Springview	Niobrara	T.	T.		.60								.40														T.			.10			1.10
Stanton	Elkhorn				.50									.10													.10			.10			0.80
Stratton	Republican			.30																									T.				0.30
Superior	do																																
Tecumseh	Great Nemaha				.45	.15								.20				.30													.20			1.30
Tekamah	Missouri				.50				T.				.10	.15													T.		T.				0.75
Turlington	Little Nemaha				.80	.05				T.		T.	.40		T.	T.	T.	T.																1.25
Valentine	Niobrara	T.	.01	.02	.62		T.		.01				.67					.07												.21			1.61
Wahoo	Platte				.70																					T.				.20			0.90
Wakefield	Elkhorn				.15								.10	.15													.02						0.42
Walthill	Missouri		.05										.20																				0.25
Watertown	Platte			.35									T.																	.21			0.56
Wauneta	Republican																																0.00
Weepingwater	Missouri				.56								1.20	T.			T.	T.									.05		T.	.11			1.92
Westpoint	Elkhorn			T.									.20														T.			T.			0.20
Wisner	do																																
York	Blue				.40								.05														T.			.20			0.65
Iowa.																																	
Afton	Grand				1.00	.20							.20	T.	T.			T.												T.	T.			1.40
Allerton	Chariton	T.			.70								.70	.25			T.	.05	T.		T.					T.		.01	T.				1.71
Alton	Floyd		.10		.50			T.				T.	.10	.70				T.								.05	T.		T.				1.45
Atlantic	Nishnabotna				.51				T.			T.	.51	.05				T.		.10						T.		T.	T.				1.17
Audubon	do				1.30								.10	.40				T.			T.					T.							1.80
Bedford	Missouri				1.20	.40						T.	.55	T.			.08	.04	.02							.01		T.	.08	.08			2.46
Centerville	Chariton																																
Chariton	do			.45								T.	.25	T.					T.		T.					T.		T.	T.				0.70
Clarinda	Nodaway				.10	.77							.30	.39												.02		T.		.15			1.73
Corning	do				.80								*	.50			T.	T.			T.												1.30
Corydon	Chariton				.71	.07							.57	.28	T.		T.	.02	.01		T.					T.		.02	T.	.01			1.69
Creston	Missouri				.10	.80								.50					T.							T.							1.40
Cumberland	Nodaway																																
Denison	Missouri				.60								.02	.25							T.					T.		T.	T.	T.			0.87
Elliott	Nishnabotna				.50								.13													T.							0.63
Greenfield	Nodaway				.80								.40	.24												T.		T.	T.	T.			1.44
Hancock	Nishnabotna				.60								.60	.20			T.	T.										T.	T.				1.40
Harlan	do				.60			T.	T.				.26	.12				T.			T.					.02		T.	T.	T.			1.09
Hopeville	Grand				.51	.03							.83	.22				.05			T.							T.	.01	.C1			1.66
Inwood	Big Sioux		.03		.30								.35	.30				T.								.08	T.	T.					1.06
Lamoni	Grand				.77	.62							.21	.12			.01	.03	T.									T.	T.	.04			1.20
Larrabee	Little Sioux		.06		.57								.20	.35				.01	T.		T.				T.	.02			T.	T.			1.21
Le Mars	Floyd	T.	T.		.22		T.						.25	.26				T.							T.	T.		T.	T.	T.			0.73
Lenox	Missouri				.45								.40															T.	.03				0.88
Leon	Grand	T.			1.00	.30						T.	.65	.20	T.	T.	T.	.10	.50							.05		.02	T.	.10			2.92
Little Sioux	Little Sioux				.90								.15	.15																			1.20
Logan	Missouri				.40								.15	.12																T.			0.67
Massena	Nodaway				1.00			T.				T.	T.	.90	T.		.03	T.	T.		T.					T.		T.	T.	T.			1.93
Mount Ayr	Grand				.52							T.	.55	.20			.03	.04	T.		T.					T.		T.	.05				1.39
Odebolt	Missouri				.46									.50																			0.96
Onawa	do				.35	.01			T.				.25	.26				T.								.05				T.			0.92
Pacific Junction	do				.65	T.							.63				T.	T.								.01		T.	.11				1.40
Rock Rapids	Big Sioux																																
Sheldon	Floyd		.20	T.	.40	.40				T.			.50	1.00		T.	.25	.05	.05						T.		.30			T.	T.	T.	3.15
Sibley	Big Sioux		T.	T.	.20	.30								.50	T.				T.		T.							.05	T.	T.	T.		1.05
Sioux Center	Floyd	T.	.05		.60								.20	.60				T.								.10		T.	T.	T.			1.55
Sioux City	Missouri	T.	T.		.25			T.	T.	T.			.24	.15	T.			T.			T.					.05		T.	T.	T.			0.69
Thurman	do				.52	.02							.32	T.			T.	T.			T.					T.		T.	.05	T.			1.11
Washta	Little Sioux				.25								.30	T.	T.			T.								T.		T.	T.	T.			0.55
Woodburn	Chariton				.80	T.							.60	.22	T.			.15	T.		T.					T.		T.	T.	.10			1.96
Kansas.																																	
Abilene	Smoky Hill		T.	.32	.05							.88						T.												.04			1.29
Agricultural College	Kansas		T.	T.	.65								.75		T.			T.	T.											.06			1.46
Alton	Solomon				.50								.10				T.	.05												.02			0.67
Atchison	Missouri				1.60								.90				T.	T.												.05	.20		2.15
Baker	do																																
Beloit	Solomon				.33																									.04			0.37
Blakeman	Republican				.22													.02												.01			0.25
Blue Rapids	Blue																																
Centralia	do				.60							T.	.75				T.	T.												.19			1.54
Chapman	Smoky Hill		T.		.58								.15																	T.			0.73
Clay Center	Republican				.40								.50					T.												T.			0.90
Colby	do		T.	.16	T.													.02															0.18
Concordia	do		T.	.06	.43							.02	.03				T.	T.												.05			0.59
Densmore	Solomon		T.		.31																									.05			0.36
Dresden	Republican		T.	T.	.52								T.																	T.			0.52
Ellsworth	Smoky Hill				.40							T.	.45				.06	T.												.05			0.96
Enterprise	do				.37	.20		.23					.90																	T.			1.70
Eskridge	Kansas				.88	.18							1.10				T.	T.												.05	.05		2.26
Farnsworth	Smoky Hill				.32							T.	.04					T.															0.36
Ft. Scott	Marmaton		T.	.10	1.00	T.							.65				T.													T.			1.75
Frankfort	Blue		T.		.60								.50					T.												.25			1.35

TABLE 2.—*Daily precipitation for January, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Kansas—Cont'd.																																	
Garnett	Marias de Cygnes			T.	.33	.05							.50				.03														.07		0.98
Goodland	Smoky Hill																																
Gove	Blue		.10	.50								.03																					0.63
Hanover	...do				.65								.48				.02	T.									T.			.12			1.27
Harrison	Republican				.28								.19	T.																.15			0.62
Hays	Smoky Hill		T.	T.	.55							.02						T.										.01		T.			0.58
Hill City	Solomon				.30							T.						T.												T.			0.30
Horton	Kansas		T.		.54	.05							.85		T.		T.		T.										*	.08			1.52
Hoxie	Solomon				.25													.06											T.				0.31
Jewel	Republican				.10								.60			T.		T.												.10			0.80
Lawrence	Kansas			T.	.50							.85	.38				.01	T.												.17			1.91
Lebanon	Solomon			T.	.22								.05				T.											T.		.07			0.34
Lindsborg	Smoky Hill																																
Mankato	Republican				.20								.02																	.10			0.32
Minneapolis	Solomon		T.		.40							T.	.56				T.	T.												T.			0.96
Moran	Marmaton		T.	T.	.10	T.							.55				.04													T.	T.		0.69
Natoma	Saline				.50																									.02			0.52
Norton	Republican				.50								T.					.03												T.			0.53
Oberlin	...do				.19								T.																	T.			0.19
Oketo	Blue	T.			.48								.58			T.											.02			.02			1.10
Olathe	Kansas				.55								1.42				.02	.02	T.											.20			2.21
Osage City	Marias de Cygnes				.76								.95				T.	T.												.03			1.74
Ottawa	...do				.68								1.04						.01											.10			1.83
Phillipsburg	Solomon				.30								T.	T.			T.	.05										T.		.05			0.40
Plainville	Saline				.25																												0.25
Pleasonton	Marias de Cygnes			T.	.51								.50																		.08		1.09
Republic	Republican																																
Russell	Smoky Hill			T.	.56								.65																	T.			0.81
Saint Francis	Republican		T.		.17													.03															0.20
Salina	Smoky Hill		T.	T.	.45							T.	.65	T.			.01	T.												T.	.05		1.16
Scott	White Woman		T.		.79							T.	.23					T.															1.02
Smith Center	Solomon				.20							.12			T.			.02											.05				0.39
Topeka	Kansas				.87							.03	1.34		T.													T.	.18				2.42
Valley Falls	...do		T.	T.	.39	.09							1.08																.05	.04			1.65
Vinland	...do	1.08			.51								1.17				.02												.17				1.95
Wakeeney	Smoky Hill				.31							.03					.01																0.35
Wallace	...do	T.	T.	T.	.07							T.						T.															0.07
Wamego	Kansas		T.		.60								1.15		T.			T.												.05			1.80
Missouri.																																	
Amoret	Osage				*	.27							.08				T.								.45						.14	T.	0.94
Appleton City	...do				.15																										.60		0.75
Arlington	Gasconade		T.			1.02								1.27															T.	T.			2.29
Arthur	Osage		T.		1.00								.97				T.																1.97
Avalon	Grand				.40				.20				1.30	.04			T.														.20			2.14
Bagnall	Osage																																
Bethany	Grand		.20		.40								.74				T.	.10	T.										.10				1.54
Bolivar	Osage				.45		.08						.52	.54																	T.			1.57
Boonville	Missouri			T.	T.	.56							.46	.10				.04													.20			2.36
Brunswick	Grand	.02		T.	T.	.72							.66	.33				.03												.02	.13			1.93
Clinton	Osage				.91								.91					.06												.17				2.05
Columbia	Missouri		.01		.50							.13	1.48	T.			.02	.01											.01	.16	.04			2.36
Conception	...do				.50								.27				T.	T.												T.	.20			0.97
Darksville	Chariton				.10								1.55					.12													.10			1.87
El Dorado Springs	Osage			T.	.30								.51																		T.			0.81
Fairport	Grand				.49	.60							.23				.50	.60	T.										T.	.08				2.50
Fayette	Missouri					.50							1.23																T.	.20				1.93
Fulton	...do		T.	T.	.26	.30						T.	1.83	.22			T.	.03												.09	.20			2.93
Gallatin	Grand				.30	.10						1.00																		.20				1.60
Glasgow	Missouri					.46							.42	.63				.02	.03												.12			1.68
Grant City	Grand				.50	.30							.20	T.	T.		T.	.10	T.		T.					T.		T.	.10	T.				1.20
Harrisonville	Osage				T.	1.10							.55	.80					T.												.20			2.65
Hazelhurst	Grand		T.		.60								.90				.05	.10												.05	.10			1.80
Hermann	Missouri			.64	.02	.56							.22	1.68	T.		T.	.02	T.					T.						.04	.22	T.		2.80
Houston	Gasconade			T.	.10	.35								.50			T.																	1.15
Huntsville	Chariton																																
Jefferson City	Missouri				.15	.40							.30	1.08				T.												T.	.13			2.06
Kansas City	...do		T.	T.	.52								1.33				T.	T.											T.	.21				2.06
Kidder	Grand				*	.55							.62	.20				.04	.06												.20			1.67
Lamonte	Missouri			T.	.66	T.							1.27	.06		T.	T.	.04					T.	T.					T.	.11	T.			2.14
Lebanon	Osage				.73								*	.90			T.													.10				1.73
Lexington	Missouri					.32							.60	.55			.04		.01												.20			1.72
Liberty	...do			T.	T.	.50							1.12				T.	T.											T.	.60				2.22
Lockwood	Osage			T.	.59		T.						.59	.52			T.																	1.69
Marshall	Missouri	T.			.46	.10							1.85	.07			.03	.09											T.	.10	.15			2.79
Marshfield	Osage				.40		.10						.50	1.00																					2.00
Maryville	Missouri				.20	.85								.28																					1.33
Mount Vernon	Osage		.01		.30								.24	.50																					1.05
Nevada	...do			T.	.10							T.	1.70				T.												T.		T.			1.80
New Palestine	Missouri				.15								1.85				T.														.21				2.21
Oregon	Missouri		T.	T.	1.00								.77					.05					T.						T.	.11				1.93
Osceola	Osage				.20	.67							.10	.87																	.05				1.89
Pattonsburg	Grand																																
Rolla	Gasconade		T.	.08		.72						T.	.87	.41			T.	.02					T.					.07		.01			2.18
St. Charles	Missouri	T.		T.	.60								1.10	.55			T.	.06													.20			2.51
St. Joseph	...do		T.		.78							.13	.65				.01	.03											T.	.07				1.67
St. Louis	Mississippi		.01	T.	1.00	T.						T.	1.27	.21			.05	.10			T.								T.	.07	.02			2.73
Sublett	Chariton				.40								T.	T.	*						T.								T.	.05	T.			0.45
Trenton	Grand				.60	.02							.79	.05																T.	.09			1.55
Unionville	Chariton					1.35							.54	.24	.06			.06	T.							T.	T.			.07	.20			2.52
Warrensburg	Missouri				.78	T.							1.09	.05			T.	.02											T.	.08	.05			2.07
Warrenton	...do	T.		.05	T.	.70							.16	1.65	T.		T.	.02	.01											T.	.22			2.81
Warsaw	Osage		T.	T.	.57	.16						T.	.27	.18			T.	T.											T.	.05	.10			2.03
Wheatland	...do				.21								1.50																		.10			1.81

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewiston.		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	38	0	53	8	30	11	34	0	40	0	41	1	23	− 9	17	−12	46	5	35	− 2	1	− 6	4	− 8	2	− 9	5	− 6
2...	10	− 8	15	−10	11	0	0	−29	3	− 8	11	− 6	− 3	−21	− 3	−13	6	− 6	6	− 8	8	− 2	3	−13	19	−16	10	− 5
3...	6	−34	11	−10	8	−16	− 9	−32	10	−21	4	−25	− 4	−27	9	−10	0	−22	0	−21	8	− 8	−10	−21	14	−20	8	−15
4...	0	−18	9	− 2	11	−14	9	−13	10	− 6	8	2	12	−10	3	−14	− 7	−20	10	−20	13	− 4	11	−17	12	−12	10	−11
5...	4	−12	11	0	15	−11	7	−20	11	− 6	8	3	17	− 2	3	−12	14	−12	14	−11	23	0	16	− 7	15	4	21	− 3
6...	0	−28	17	− 2	21	− 9	− 4	−22	15	− 3	7	− 9	26	− 6	6	−15	29	3	18	0	29	10	12	− 4	22	0	27	0
7...	11	−12	25	14	30	− 4	19	−13	23	7	36	8	28	12	16	4	16	4	19	2	28	15	28	11	28	18	27	4
8...	10	−19	29	9	30	2	13	−14	24	4	19	− 2	30	2	20	2	22	10	24	6	32	15	27	11	26	12	13	− 9
9...	12	−21	39	9	30	−12	10	−14	34	0	27	17	20	− 2	24	12	25	8	30	7	28	2	20	6	38	15	16	−10
10...	2	−20	34	15	39	− 6	9	−12	36	12	31	20	20	− 4	26	13	27	− 2	31	5	22	5	20	6	28	19	15	−11
11...	3	−20	40	14	33	1	11	− 8	38	10	37	22	24	− 1	26	12	22	− 1	27	− 1	13	− 6	10	− 1	34	10	8	−16
12...	12	− 8	34	20	31	− 6	13	−12	32	15	33	13	24	− 4	26	6	20	− 2	28	0	18	− 2	9	− 4	47	23	12	− 6
13...	10	−20	35	11	23	− 2	5	−17	22	0	28	2	13	− 9	20	0	28	− 2	30	4	11	− 7	11	− 6	41	19	12	−11
14...	32	−11	46	15	24	− 3	20	−12	40	6	39	29	29	2	28	10	22	0	33	10	40	12	38	1	40	9	28	9
15...	35	− 9	49	20	33	− 3	37	4	42	18	39	24	30	4	34	17	37	2	35	12	31	9	24	8	33	15	37	15
16...	30	− 2	52	27	52	− 4	39	17	45	24	40	19	35	6	33	5	34	6	30	10	29	4	34	16	32	20	22	5
17...	22	− 4	34	19	42	20	30	5	30	10	27	15	35	6	20	5	36	10	32	2	34	8	34	26	36	15	25	− 6
18...	24	6	42	23	44	14	34	9	34	8	30	13	52	23	23	15	34	15	33	14	46	32	42	25	45	28	46	0
19...	28	6	46	24	49	28	43	12	46	20	32	26	44	21	29	14	42	22	33	12	40	22	36	18	35	19	44	27
20...	26	−11	38	16	31	12	22	2	30	8	30	7	32	7	28	13	37	5	36	14	38	14	25	15	46	12	35	9
21...	20	−12	52	16	50	7	33	0	40	7	39	21	47	3	35	15	34	8	40	20	49	31	43	14	45	22	35	13
22...	32	9	50	40	53	15	49	16	42	18	41	29	52	29	36	30	40	32	48	27	52	40	52	40	51	32	49	28
23...	32	6	54	35	58	29	39	21	44	22	51	39	49	28	41	30	46	34	50	30	44	26	49	33	60	35	44	20
24...	41	17	58	33	59	17	50	17	51	30	46	36	55	27	42	26	48	30	51	29	49	28	50	32	49	32	45	27
25...	40	18	47	22	55	11	41	12	45	25	36	26	45	24	28	15	48	28	40	24	42	31	35	24	40	25	45	15
26...	26	− 2	33	18	45	23	35	− 2	32	9	29	14	37	18	24	13	37	15	33	18	38	25	34	23	34	22	38	19
27...	9	−14	30	12	37	15	37	1	30	14	28	9	36	22	20	10	31	15	34	14	42	22	35	28	41	19	40	17
28...	30	3	44	26	51	19	44	12	45	14	32	18	39	19	28	11	38	28	38	21	42	24	38	19	46	20	42	25
29...	28	− 3	29	15	41	20	30	5	43	15	33	12	30	19	24	1	39	17	38	19	37	13	26	12	38	9	37	12
30...	30	4	46	29	55	17	45	7	43	10	38	20	48	17	29	15	34	17	41	16	50	33	50	25	49	30	47	14
31...	30	6	58	34	62	22	47	19	44	20	43	26	53	31	40	23	45	30	39	18	44	34	53	34	50	31	49	27
Mns	20.4	−6.9	37.4	16.1	37.2	6.5	25.5	−2.0	33.0	9.1	30.4	13.8	31.5	7.3	23.7	7.8	30.0	9.0	30.8	8.7	31.6	13.1	27.7	11.2	35.4	14.8	28.8	5.7

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.		Williston.		Aberdeen.‡‡		Chamberlain.		Huron.		Kadoka.		Lemmon.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	12	− 1	10	−12	42	5	28	− 3	39	− 7	34	−11	7	− 8	9	6	40	.....	34	3	43	0	31	− 5	35	1	32	− 3
2...	4	−12	6	− 8	9	− 5	6	− 2	2	− 8	9	− 7	6	− 6	10	0	.....	0	7	2	4	−10	1	− 6	7	0	1	−16
3...	− 2	−21	4	−24	6	−13	2	−24	2	−22	12	−26	− 1	−13	− 9	−14	6	−10	4	−16	4	−11	1	−16	1	− 7	7	−13
4...	6	− 3	3	−14	− 2	−21	− 6	−22	− 6	−14	12	−31	− 2	−15	− 4	−22	− 2	−12	− 4	− 9	4	−17	− 7	−10	− 3	− 7	9	−13
5...	20	0	13	− 8	4	− 7	3	−13	6	− 8	8	−12	12	− 4	0	−12	7	−20	0	−10	13	−20	7	−10	11	−13	21	5
6...	24	12	17	− 1	16	−12	16	−12	14	− 4	15	− 7	13	9	4	−21	.....	−18	2	−29	14	3	13	− 1	19	− 8	25	2
7...	25	14	18	− 1	17	− 7	12	−14	17	0	12	− 8	10	−17	8	−18	27	− 4	10	− 8	28	12	19	6	25	11	32	14
8...	28	3	13	−22	− 1	−30	2	−21	15	−18	11	−16	7	−15	− 3	−19	23	0	− 5	−15	24	9	18	−17	11	− 8	34	13
9...	17	− 3	24	−12	22	− 3	10	− 9	17	− 3	4	−14	20	−12	20	−20	13	− 4	17	−16	27	12	18	3	18	− 3	38	9
10...	16	8	24	−16	20	−23	16	−14	18	− 8	7	−10	19	−11	15	− 3	.....	5	16	0	25	14	20	0	18	2	31	12
11...	10	− 7	12	−17	14	−16	14	−12	18	− 6	4	− 7	18	−15	22	− 4	22	0	30	− 1	23	4	23	− 3	16	0	35	15
12...	20	5	10	−15	11	−18	18	−15	14	−10	10	−11	4	−18	28	− 2	20	0	25	5	17	6	17	0	22	3	34	15
13...	14	− 3	14	−15	14	−19	13	−11	20	−10	10	− 6	22	−12	13	6	24	.....	23	3	26	11	17	4	22	0	24	5
14...	34	6	37	2	30	− 3	28	− 8	25	1	8	−17	32	17	15	− 3	22	−17	13	− 2	28	5	23	− 2	26	− 8	50	3
15...	31	7	33	4	36	− 4	25	4	34	15	23	5	32	− 3	29	− 2	34	.....	28	8	34	14	31	8	32	16	52	20
16...	24	4	20	0	15	− 9	15	− 4	21	0	18	2	12	− 7	27	8	34	13	32	8	42	13	19	5	19	5	50	25
17...	32	3	10	−22	15	−10	16	− 6	21	5	18	− 1	12	− 9	20	10	.....	15	21	6	31	13	23	11	30	4	34	21
18...	44	14	40	−10	42	−12	40	− 7	38	− 3	25	− 8	39	− 7	29	− 6	.....	1	31	− 2	38	16	36	4	39	10	51	22
19...	38	21	41	26	45	19	43	27	37	28	34	18	39	22	35	− 5	38	10	34	15	42	22	38	28	40	28	54	30
20...	33	13	33	16	35	11	31	7	34	8	34	10	22	5	23	17	26	18	34	11	26	14	34	13	34	13	34	18
21...	40	12	29	− 1	29	− 5	25	− 6	30	0	18	− 5	32	4	17	− 1	24	− 1	14	− 3	26	5	23	1	19	1	40	16
22...	52	27	46	13	44	10	42	17	38	22	32	9	41	25	39	0	43	9	38	7	44	15	40	12	44	12	57	32
23...	48	31	37	10	40	12	32	10	36	14	32	10	27	10	28	13	40	21	32	16	40	29	38	19	37	21	53	30
24...	48	29	42	12	26	8	27	7	29	15	22	9	31	15	29	16	36	14	26	10	46	24	28	15	39	17	61	29
25...	44	26	40	10	33	10	32	16	35	11	25	16	41	14	34	15	39	17	32	20	46	28	37	18	37	17	50	29
26...	40	21	37	15	33	20	34	21	32	16	25	21	35	20	18	18	38	15	32	21	38	27	34	19	37	29	40	29
27...	40	29	34	9	33	15	32	16	30	8	26	11	26	12	33	3	32	16	30	18	36	22	31	15	37	26	38	28
28...	44	27	25	1	26	− 5	16	2	25	4	22	5	25	0	20	6	24	12	21	5	29	17	25	5	29	14	44	32
29...	32	22	25	12	25	7	21	5	25	12	17	9	22	5	22	7	21	8	20	6	26	17	23	12	22	14	33	11
30...	47	21	25	− 1	26	− 9	17	−13	30	1	19	− 7	32	− 2	16	− 2	20	0	18	0	27	5	19	1	19	2	44	12
31...	44	35	39	21	44	19	45	17	48	25	39	1	41	26	34	2	41	8	34	3	42	26	44	15	47	13	57	40
Mns	29.3	11.0	24.5	−1.5	24.2	−3.1	21.1	−2.2	24.0	2.0	18.9	−2.5	21.8	0.3	18.7	−0.9	26.6*	3.4*	20.6	1.8	28.8	10.5	23.4	4.6	25.5	6.6	37.3	15.

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.																	
	Sioux Falls.		Watertown.		Yankton.		Denver.		Wray.		Alma.		Bridgeport.		Grand Island.[1]		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	30	− 2	30	1	44	5	58	20	46	19	37	19	33	10	42	32	35	0	37	29	36	11	37	7	32	4	36	13
2...	12	− 4	6	− 1	8	0	20	13	19	8	20	6	10	3	4	4	10	− 3	20	8	13	9	10	1	7	1	13	10
3...	10	− 11	6	− 15	6	− 5	13	6	11	1	15	5	10	− 14	14	0	8	− 23	15	3	11	4	14	− 3	7	− 3	11	1
4...	0	− 15	− 4	− 21	0	− 12	12	2	10	2	7	1	9	2	5	− 2	8	− 10	6	1	5	− 4	7	− 4	3	− 4	6	− 2
5...	0	− 18	− 3	− 14	4	− 16	21	− 7	15	− 7	20	− 17	16	− 1	14	− 9	12	− 14	15	− 15	9	− 13	19	− 9	6	− 14	6	− 10
6...	4	− 21	6	− 20	10	− 15	25	0	25	− 3	21	− 15	18	− 5	18	− 12	15	3	17	− 15	12	− 8	17	− 7	17	− 11	11	− 10
7...	25	− 3	10	− 7	28	− 2	34	8	36	− 2	26	− 8	35	5	33	10	30	5	24	0	24	0	26	6	29	1	25	0
8...	11	− 15	6	− 15	14	− 7	38	15	31	7	28	− 5	34	4	22	3	32	12	24	7	21	6	29	5	21	6	19	9
9...	20	− 15	15	− 12	22	4	39	11	30	− 2	28	− 5	32	− 2	30	− 2	25	6	23	− 4	27	− 5	30	1	25	− 4	19	5
10...	20	0	24	7	21	6	35	15	42	5	31	15	34	0	20	20	40	0	38	19	39	21	32	6	23	6	38	19
11...	28	5	30	1	22	2	36	14	27	5	26	5	29	6	24	7	30	10	26	14	25	12	25	6	24	2	29	10
12...	27	18	21	13	28	19	44	15	30	11	27	23	32	12	27	30	22	14	34	25	32	23	27	21	23	18	36	27
13...	29	9	21	14	28	4	36	16	25	7	30	20	38	10	27	19	28	12	25	18	27	14	30	5	24	0	31	19
14...	28	7	18	10	14	4	34	15	26	3	22	− 2	25	6	25	− 2	20	1	18	5	20	12	23	4	22	− 9	21	17
15...	30	8	27	7	30	14	50	20	27	22	30	19	35	8	35	23	35	10	33	17	33	20	28	20	29	11	34	19
16...	25	10	31	26	37	16	61	35	48	9	36	30	43	7	35	31	48	14	35	32	36	31	34	20	36	22	35	31
17...	20	− 2	30	7	23	9	39	26	39	20	33	21	36	20	32	19	45	20	34	22	35	21	35	16	28	13	35	21
18...	25	10	18	0	36	5	58	29	40	11	41	14	42	20	40	29	43	12	38	18	39	20	40	16	37	12	35	20
19...	45	18	32	14	49	28	52	29	49	20	43	10	50	15	46	24	45	26	45	24	45	26	40	18	43	27	48	28
20...	39	12	31	13	37	15	39	19	41	20	38	19	38	15	34	26	35	10	35	29	37	21	33	12	32	12	38	20
21...	36	14	22	− 2	24	8	58	18	47	11	37	4	44	5	34	8	38	0	35	13	30	14	34	7	28	4	28	15
22...	39	16	36	9	43	19	59	40	51	27	40	9	52	22	45	14	42	16	38	16	40	18	40	15	41	18	39	20
23...	38	10	31	17	37	22	61	42	55	32	51	26	58	28	44	27	53	29	44	31	39	26	47	30	36	22	38	27
24...	25	7	24	12	32	20	64	34	60	30	40	26	62	30	40	28	55	30	40	23	38	38	46	27	35	19	35	16
25...	40	15	32	21	35	24	54	29	61	30	46	26	52	22	42	28	50	20	44	29	46	31	47	23	35	24	47	34
26...	40	20	30	22	35	25	46	30	49	28	47	33	40	20	41	36	36	18	44	36	41	31	41	24	37	23	39	32
27...	40	10	30	12	34	23	38	25	40	25	42	26	36	17	42	25	33	17	41	27	40	27	40	22	36	18	37	27
28...	30	12	21	7	27	15	54	35	49	17	45	26	47	17	47	26	45	16	28	26	33	18	44	22	23	11	30	16
29...	36	0	21	14	30	12	45	24	38	15	34	26	40	15	24	18	35	15	26	25	22	17	36	14	20	10	24	16
30...	24	0	23	9	28	10	53	26	51	18	38	7	50	15	30	6	45	− 2	27	10	32	7	46	10	26	7	28	13
31...	40	14	32	2	41	13	64	30	64	26	32	20	62	20	45	14	58	25	40	12	37	4	57	26	44	5	34	16
Mns	26.0	3.9	21.6	4.2	26.4	8.5	43.2	20.1	38.4	13.4	33.3	12.4	36.5	10.7	30.9	14.9	34.3	8.8	30.6	15[1]4	29.8	13.9	32.7	11.6	26.7	8.1	29.2	15.5

Date.	Valentine, Nebr.		Iowa.						Kansas.										Missouri.							
			Clarinda.[1]		Sibley.[1]		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Unionville.[1]	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	45	0	39	18	21	18	36	8	49	21	41	12	41	28	43	18	44	25	46	29	46	25	61	37	40	16
2.....	3	− 8	18	10	9	2	10	6	30	8	15	11	28	12	22	15	25	9	29	19	25	16	37	25	20	13
3.....	8	− 11	14	4	− 1	− 7	6	− 5	12	5	15	8	15	11	20	12	13	8	23	16	19	14	29	17	16	10
4.....	4	− 25	6	− 1	0	− 15	4	− 6	13	0	11	− 3	12	8	16	− 7	12	− 1	29	13	16	10	32	16	10	1
5.....	13	− 18	6	− 13	− 1	− 18	2	− 12	18	− 10	13	− 7	14	− 8	12	− 3	21	− 10	25	3	11	− 2	34	11	4	− 6
6.....	15	1	10	− 21	2	− 21	3	− 17	21	− 4	16	− 10	17	− 15	15	− 5	23	0	12	0	14	− 4	13	3	− 2	− 14
7.....	27	12	23	− 22	19	− 16	29	− 7	32	2	26	6	26	2	31	7	32	1	35	5	31	7	34	9	24	− 13
8.....	28	5	23	− 10	14	− 7	17	2	32	10	24	9	22	13	34	14	34	11	36	21	37	19	29	25	28	− 4
9.....	29	2	25	− 4	20	− 18	19	8	32	3	32	4	33	3	31	4	35	9	29	10	31	10	31	17	29	− 4
10.....	29	5	39	0	30	8	26	12	34	15	42	23	41	24	41	26	35	23	43	21	43	26	36	18	40	8
11.....	29	11	35	14	26	0	24	5	28	8	30	16	40	21	41	32	30	13	42	35	43	36	44	30	38	29
12.....	17	9	36	14	28	6	32	22	29	18	34	21	36	29	40	30	29	25	44	36	44	36	43	36	37	26
13.....	24	2	32	29	23	20	29	8	27	15	28	17	32	20	31	24	28	18	44	30	36	28	47	33	36	32
14.....	26	6	22	14	21	7	18	8	28	16	23	9	28	14	27	18	27	11	30	25	30	23	33	28	30	24
15.....	31	18	33	14	.....	10	32	18	30	18	36	23	36	24	36	25	32	18	33	23	35	25	31	26	34	14
16.....	46	14	34	20	33	.....	36	31	43	25	36	33	39	32	39	33	35	31	37	30	40	33	35	30	36	29
17.....	30	16	34	31	26	21	33	11	37	20	35	24	38	27	43	28	32	23	51	31	51	29	56	35	38	34
18.....	39	15	35	17	24	0	31	6	48	17	40	21	44	27	44	27	49	20	44	27	43	28	45	32	40	26
19.....	45	27	44	17	39	6	41	25	48	28	47	26	47	30	51	31	61	28	57	33	57	34	60	36	50	26
20.....	28	8	36	21	30	21	37	14	42	23	38	24	36	31	40	26	39	26	44	25	45	27	51	29	36	30
21.....	34	4	40	13	23	2	24	7	50	16	37	15	38	19	36	21	48	16	32	19	37	22	31	22	25	14
22.....	44	17	37	10	35	2	42	15	51	29	39	21	44	24	47	22	49	28	42	13	47	22	40	16	37	8
23.....	47	27	40	10	28	11	34	21	53	34	46	30	39	32	48	32	54	36	50	31	52	34	45	32	38	12
24.....	44	24	36	16	24	10	31	17	54	30	43	27	49	28	46	26	52	30	44	22	46	28	36	27	40	16
25.....	49	26	49	16	36	12	39	27	65	29	54	31	50	34	63	40	67	29	62	33	64	40	53	30	54	20
26.....	37	22	40	30	32	17	35	27	47	30	46	32	53	27	50	34	62	36	61	36	57	39	58	40	38	28
27.....	37	20	40	22	33	10	31	23	41	28	43	31	44	28	46	30	43	30	41	27	46	32	43	32	45	23
28.....	30	20	36	22	22	10	25	15	49	21	42	22	43	27	43	22	49	25	42	23	42	27	42	28	36	22
29.....	26	6	27	14	21	5	19	14	50	28	27	22	38	23	26	19	38	25	30	25	27	21	36	30	28	15
30.....	34	3	26	7	23	8	25	10	50	20	41	17	44	15	35	14	49	18	29	13	30	14	30	20	27	17
31.....	44	22	34	4	32	− 1	36	13	63	30	46	22	50	22	42	18	63	28	32	2	37	17	32	18	34	8
Means.....	30.5	8.8	30.6	10.2	22.4[2]	3.4[2]	26.0	10.5	38.9	17.2	33.7	17.3	36.0	19.7	36.7	20.9	39.0	19.0	38.6	21.8	38.1	23.1	39.9	25.4	31.5	14.4

Climatological Data for January, 1910.
DISTRICT No. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

Mean temperatures were generally above the normal by amounts ranging from 0.1° to 5.7°, except that there was a slight deficiency in scattered localities. The month opened with a warm period prevailing, which continued until the 3d in the northern and the 6th in the southern portions of the district, when maxumim temperatures between 70° and 80° were recorded generally throughout the district. A period of decidedly colder weather followed this warm period, extending to the 10th, and the monthly minimum temperatures were recorded generally during this time, and freezing temperatures, with killing frosts occurred to the Gulf coast. From the 10th to the 13th somewhat warmer weather prevailed and the temperatures were generally above 40° in the northern and 65° in the southern portions of the district. From the 13th to the 16th another cold period overspread the district, giving temperatures below 40° to the Gulf coast, with heavy to killing frosts generally in Louisiana. During the remainder of the month moderate temperatures prevailed, and maximum readings above 60° were recorded over the entire district on the closing days of the month.

Two periods of precipitation occurred generally over the western portion of the district from the 2d to 4th and 12–13th and in the eastern portion from the 2d to 6th and 12th to 20th, except that a third wet period prevailed over Louisiana on the 27–28th. The precipitation was mostly snow over the northern, rain or snow over the central, and rain over the southern portions of the district, but a trace of snow was recorded as far south as the 30th parallel in Louisiana. Monthly precipitation and departures from the normal for the various States and areas are reported as follows: Colorado area, 0.64, −0.11; New Mexico area, 0.22, −0.19; Texas area, 0.50, −1.18; Kansas area, 1.06, +0.25; Oklahoma, 0.89, −0.30; Missouri area, 1.62, −1.21; Tennessee area, 4.03, −0.59; Arkansas, 2,59, −1.77; Mississippi area, 4.78, −0.35; Louisiana, 3.28, −1.12.

TEMPERATURE.

Colorado area.—The mean temperature was 29.3°, and the average departure from the normal was −0.8°. The highest monthly mean was 38.0°, at Canyon City, and the lowest, 16.0°, at Leadville. The highest temperature recorded was 84°, at Hoehne, on the 24th, and the lowest, −34°, at Lake Moraine on the 6th.

New Mexico area.—The mean temperature was 36.5°, and the average departure from the normal +1.8°. The highest monthly mean was 43.9°, at Arch and Tucumcari, and the lowest, 22.1°, at Elizabethtown. The highest temperature recorded was 78°, at Bell Ranch, on the 2d, and the lowest, −23°, at Elizabethtown on the 6th.

Texas area.—The mean temperature was 42.3°, and the average departure from the normal +3.3°. The highest monthly mean was 47.5°, at Clarksville, and the lowest, 35.4°, at Dalhart. The highest temperature recorded was 85°, at Tulia, on the 25th, and the lowest, −5°, at Miami, on the 5th.

Kansas area.—The mean temperature was 33.0°, and the average departure from the normal +1.7°. The highest monthly mean was 37.6°, at Independence, and the lowest, 29.3°, at La Crosse. The highest temperature recorded was 77°, at Hugoton, on the 24th, and the lowest, −14°, at Council Grove, on the 6th.

Oklahoma.—The mean temperature was 40.1°, and the average departure from the normal +1.8°. The highest monthly mean was 45.4°, at McAlester, and the lowest, 35.6°, at Hooker. The highest temperature recorded was 89°, at Erick, on the 1st, and the lowest, −10°, at Beaver, on the 5th.

Missouri area.—The mean temperature was 35.6°, and the average departure from the normal +0.6°. The highest monthly mean was 41.4°, at Hollister, and the lowest, 28.5°, at Belle. The highest temperature recorded was 76°, at Hollister, on the 1st, and the lowest, −8°, at Marble Hill, on the 7th.

Tennessee area.—The mean temperature was 39.0°, and the average departure from the normal +0.9°. The highest monthly mean was 42.7°, at Memphis, and the lowest, 36.2°, at Milan. The highest temperature recorded was 71°, at Jackson, on the 26th, and the lowest, −12°, at Union City, on the 7th.

Arkansas.—The mean temperature was 41.8°, and the average departure from the normal +2.1°. The highest monthly mean was 47.5°, at Lewisville, and the lowest, 35.4°, at Bergman. The highest temperature recorded was 78°, at Camden, Centerpoint, and Pocohontas, on the 1st, and the lowest, −7°, at Wynne, on the 7th.

Mississippi area.—The mean temperature was 46.7°, and the average departure from the normal +0.8°. The highest monthly mean temperature was 52.1°, at Woodville, and the lowest, 39.4°, at Holly Springs. The highest temperature recorded was 82°, at Tchula, on the 2d, and the lowest, 6°, at Austin and Holly Springs, on the 7th.

Louisiana.—The mean temperature was 51.8°, and the average departure from the normal +1.6°. The highest monthly mean was 57.8°, at Burrwood, and the lowest, 43.6° at Farmville. The highest temperature recorded was 85°, at Cheneyville, on the 5th, and the lowest, 13°, at Plain Dealing, on the 7th.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—Less than the normal amount of precipitation occurred in the Arkansas Basin, except that over the extreme headwaters in Colorado, the Kansas area, and the central portion of Oklahoma there was an excess. Over the Arkansas Basin in Colorado, the precipitation from 30 stations averaged 0.68 inch, being about 0.1 inch below the normal. The precipitation over the stretches of the Arkansas proper that lie in Kansas and Oklahoma, from 39 stations, averaged 1.14 inch, practically all stations reporting an excess, which averaged about 0.2 inch. The precipitation was unevenly distributed over the Cimarron drainage area; there was none over the headwaters in Colorado; a slight excess occurred over that portion of the valley that lies in Kansas, and there was a deficiency over those portions lying in Oklahoma. The amounts from 16 stations averaged 0.57 inch, being about 0.2 inch below the normal. The precipitation was uniformly light throughout the Canadian Basin. The amounts from 59 stations averaged 0.43 inch, being about half the normal amount. The precipitation was above the normal over the Neosho Valley; the amounts from 13 stations averaged 1.53 inch, and the average excess was about 0.4 inch. Nearly the normal amount of precipitation occurred over the Verdigris Basin. The amounts from 9 stations averaged 1.10 inch. The precipitation over that portion of the Arkansas Basin from the Oklahoma-Arkansas line to its junction with the Mississippi was uniformly light; the amounts from 15 stations averaged 2.20 inches, being about 1.5 inch below the normal.

Red River and tributaries.—Very little precipitation occurred over that portion of this valley that lies in New Mexico and Texas, and there was less than the normal rainfall throughout this drainage area, except in south-central Oklahoma, where there was an excess at a few stations. Above the Arkansas-Louisiana line the amounts from 36 stations averaged 0.79 inch, being about 0.6 inch below the normal. In Louisiana, the precipitation was greater, and the amounts from 11 stations averaged 3.15 inches, being about 1.1 inch below the normal.

Mississippi, south of St. Louis and small tributaries.—There was less than the normal amount of precipitation throughout this drainage area, except in the Yazoo Valley and at a few other widely scattered stations. In the immediate Mississippi Valley, the precipitation from 39 stations averaged 3.14 inches and was 0.9 inch below the normal. The deficiency over the Meramec Basin averaged about 1.5 inch. The amounts from 20 stations in the Valley of the White averaged 1.98 inch, which is less than half the normal for that drainage area; the deficiency was uniformly great. The precipitation was well distributed over the Yazoo Basin; the amounts from 25 stations averaged 5.17 inches, being about 1.4 inch above the normal. There was less than the normal precipitation at all stations in the Valley of the Big Black and the deficiency averaged about 1.7 inch. The precipitation was well distributed over the Valley of the Ouachita; the amounts from 20 stations averaged 3.44 inches, being about 1.5 inch below the normal.

Louisiana coastal plain.—Uniformly light precipitation occurred over this area. The amounts reported from 23 stations ranged from 1.94 to 5.38 inches and averaged 3.13 inches, being about 1.2 inch below the normal amount.

SNOWFALL.

Snow, ranging from light to heavy, fell in all portions of the district southward to the thirty-second parallel, and a trace was recorded south of that parallel at several stations in Louisiana and Mississippi. The amounts were moderate to heavy in most places, except that in eastern Oklahoma many localities received none or only a trace. By States and areas, the snowfall may be discussed as follows:

There was generally much less snowfall over the Arkansas drainage basin in the Colorado area than during January, 1909, but the amounts were generally about up to the average. The monthly amounts ranged from 1 inch to 31.7 inches, and the average was 9.5 inches.

Moderately heavy snow occurred over the New Mexico area during the first decade. The monthly amounts ranged from a trace to 8.0 inches, and the average was 2.4 inches, or less than the normal amount.

There was light snowfall in the Texas area, except that moderate amounts occurred in the Panhandle and the eastern portion of the area. The greatest monthly amount was 8.0 inches at Bonham, and the average was 1.7 inch. The snow melted rapidly and there was none on the ground at the close of the month.

General snows occurred over the Kansas area, and the amounts ranged from 3 to 5 inches in the Cimarron Valley, from 5 inches around the headwaters of the Verdigris to a trace at Independence, and from 6 inches at the headwaters of the Neosho to none at Oswego. The average amount was 3.0 inches.

Over Oklahoma the snowfall was confined to the northwestern counties, except that a trace fell in scattered localities in the northeastern portion of the State. The amounts ranged between a trace and 5 inches, and the average was 1.3 inch.

Moderately heavy snow was general over the Missouri area during the first decade, but at the close of the month there was practically none on the ground. The amounts ranged from a trace to 10 inches, and the average was 2.2 inches.

Heavy snow occurred in the northern counties of the Tennessee area on the 5th and 6th. Snow fell to a depth of over 10 inches during 24 hours over several counties. The heaviest amount was 18.0 inches in Obion County, and the average was 9.8 inches.

Snow fell throughout Arkansas on the 5th and 6th, the depth ranging from less than 1 inch in counties bordering on Louisiana to 10 inches in the upper Ouachita Valley. This distribution of the snowfall is unusual, as the heaviest fall of snow, as a rule, occurs in the northern part of the State. The average amount was 4.2 inches.

Snow fell generally north of the thirty-third parallel in the Mississippi area, the amounts to the southward of that line being light. The snow soon melted and there was none on the ground at the close of the month. The amounts ranged from a trace to 5.5 inches and the average was 1.2 inch.

Light snow was general over the extreme northern portion of Louisiana, and a trace was recorded as far south as St. Landry Parish. The heaviest fall was 1.8 inch. The average amount from stations reporting snow was 0.3 inch.

RIVERS.

The Arkansas River was frozen over in the western counties of Kansas until the 15th, while in Reno, Sedgwick, Sumner, and Cowley counties, the ice was broken up by the rain of the 12th. The Cottonwood and Neosho were frozen over until the 12th and the Verdigris until the 10th.

Frozen ground over the middle and upper stretches of the Arkansas Basin favored a rapid run-off from precipitation during the first half of the month, which in conjunction with the breaking up of ice caused floods in some parts of Kansas. A rise in the Arkansas at Wichita, Kans., of 5.7 feet between 7 a. m., January 12 and 6 p. m., January 13, caused damage to bridges in that vicinity amounting to about $4,000.

In reporting the flood, Mr. Richard Sullivan, Local Forecaster, Weather Bureau, at Wichita, Kans., says:

> The Little Arkansas had been frozen several weeks prior to the rise, and the ice and débris accumulated against the various pile bridges, all of which were weakened. The worst damage occurred at the Central Avenue Dam, where an old pile bridge supports the watermain. Ice and débris gorged at the west end of the bridge, forcing the main current to the east side of the river, where about 50 feet of the dam was washed out and the approach to the bridge badly undermined. This very seriously threatened the water supply of the city until about 4,000 sacks of sand could be placed in the wash and the remainder of the dam could be blown out. The work was completed on the 18th, and the main current is now in the middle of the river.
>
> Floating ice and débris in the Arkansas River tore out one set of piling under the county bridge at Seneca avenue. Two gorges of ice and débris in the vicinity of Maize, Kans., 10 miles up the river, forced the water over the south bank into the slough which runs southward 5 miles west of Wichita, flooding 1,000 acres of farm land. By the 17th the water had returned to the channel.
>
> Damage by erosion was confined to the banks of the bridge approaches. Little or no damage resulted to growing wheat in the flooded lands. There was no suspension of business.

Flood stages occurred in the Neosho Valley, January 14-18, as a result of moderate rains on the 12th and 13th in conjunction with the melting of snow and ice. Mr. Leon J. Guthrie, Observer, Weather Bureau, Fort Smith, Ark., in his report on this flood, says:

> Following an extended period of abnormally cold weather during which from 2 to 6 inches of ice, sleet, and snow accumulated over central and southern Kansas, a sudden rise in temperature, attended by moderately heavy rains, occurred on January 12. Owing to the frozen condition of the ground the run-off of the rain and melted snow was exceedingly rapid.
>
> On the morning of the 12th the stages of the Cottonwood and the upper Neosho were about normal, or but slightly above. Telegraphic reports at 8 a. m. of the 13th showed a 24-hour rise of about 17 feet to above the flood stage at Emporia; of 16.5 feet at Neosho Rapids; of 13.7 feet at Le Roy; and of 4.9 feet at Iola. This sudden rise carried with it great quantities of heavy ice that formed gorges at Strawn and Neosho Falls during the 14th and 15th. The Cottonwood at Emporia crested at about 23.4 feet on the 15th; but the gorges delayed the crest at Neosho Rapids until the 15th, at Le Roy until the 17th, and at Iola until the 18th. The gorge at Neosho Falls broke during the forenoon of the 17th, causing a sudden rise at Iola to 1.5 foot above the flood stage. The breaking of this gorge marked the end of the flood, and at 7 a. m. of the 18th the river had fallen from 2 to 10 feet at all points.
>
> The highest stages reached were as follows: Emporia, about 23.5 feet on the 14th; Neosho Rapids, 22.5 feet on the 15th; Le Roy, 23.0 on the 17th, and Iola, 11.5 at midnight of the 17–18th.
>
> * * * * * * *
>
> The flood was not a very destructive one, as, with the exception of some corn and fodder and a few fields of wheat, there were no farm products that could be reached by the moderately high stages attained.

There was a slow rise in the Arkansas at Little Rock from a stage of 3.3 feet on the 1st to 11.4 feet on the 21st, after which

there was a steady fall until the close of the month when the stage was 5.6 feet.

Rivers and small streams in Oklahoma were about normal, except that the water was low in the Red River Watershed.

Changes in the Ouachita at Camden were mostly in the form of slight rises until the 24th, when the highest stage of the month, 17.8 feet, was recorded. A rapid decline commenced on the 26th, and the lowest stage of the month, 8.7 feet, was recorded on the 31st. No material changes occurred at Monroe, where the stages ranged from 15.9 to 19.4 feet.

A general rise in the lower Mississippi reached Memphis on the 6th, Helena on the 7th, Arkansas City on the 8th, Vicksburg on the 11th, Natchez on the 12th, and Baton Rouge and New Orleans on the 13th, and the water was rising at all stations at the close of the month. The breaking of an ice gorge at St. Louis, Mo., on January 14 produced a sharp rise below St. Louis to Cairo, but no flood stages resulted.

NOTES.

Reports from Kansas state that transportation facilities were materially interrupted by the cold and storm of the 4–5th, but after the 10th outdoor work progressed satisfactorily and wheat and fruit buds were generally in good condition at the close of the month.

In Missouri, transportation and distributing lines of business were interrupted to some extent during the first 10 days, but they became more regular with the milder weather toward the close of the month. The weather, during the first 20 days of the month, was generally unfavorable. Outdoor occupations, and agricultural operations were generally at a standstill.

River traffic was resumed on the Arkansas River in Arkansas about the 13th and continued without interruption until the end of the month.

TABLE 1.—*Climatological data for January, 1910. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Colorado.																			
Blaine	Baca	3,935	18	34.0	− 1.8	78	24	− 7	5	48	0.00	− 0.25	0.00	0.0	0	17	9	5	w.	M. M. Myers.
Buena Vista	Chaffee	7,955	10	22.4	− 5.2	51	22	−12	7	42	0.66	+ 0.04	0.40	10.0	3	26	1	4	w.	C. A. Short.
Calhan	El Paso	6,700	3	28.3[a]	.....	59[a]	24	− 7[a]	6	38[a]	.....	.....	.....	.....	.....	17	9	5	sw.	H. B. Rice.
Canon City	Fremont	5,329	22	38.0	− 3.4	67	24	− 5	4†	39	0.53	+ 0.09	0.33	7.0	2	18	10	3	n.	Thos. J. Tynan.
Colorado Springs	El Paso	6,098	30	30.0	− 4.6	62	24	−10	6	42	0.15	− 0.29	0.15	3.0	1	15	13	3	.....	Colorado College.
Cripple Creek	Teller	9,396	9	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.19	3.1	2	.....	.....	.....	.....	F. G. Willis.
Cuchara Campe	Huerfano	8,200	.....	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.44	5.5	4	22	6	3	sw.	Geo. A. Mayes.
Eads	Kiowa	4,209	3	27.0	.....	68	24	−13	6	51	.....	.....	.....	.....	.....	.....	.....	.....	n.	W. H. Lauck.
Fairview	Custer	9,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Elizabeth L. Gray.
Florence	Fremont	5,185	1	36.6	.....	67	24	−10	4	45	0.40	.....	0.40	4.0	1	24	4	3	w.	W. G. Fish.
Garfield	Chaffee	9,510	.....	.....	.....	.....	.....	.....	.....	.....	1.03	.....	0.53	15.0	6	21	4	6	.....	Lloyd N. Felton.
Glen Eyrie	El Paso	6,500	18	30.1	− 2.9	65	24	−19	6	51	0.46	+ 0.02	0.38	5.0	4	19	11	1	n.	C. Nickell.
Hamps	Elbert	5,400	17	26.7	− 4.1	67	24	−17	6	47	0.16	− 0.25	0.13	2.5	2	16	10	5	w.	W. Hamp.
Hermit Lake	Custer	10,000	.....	.....	.....	.....	.....	.....	.....	.....	3.14	.....	1.17	30.0	7	10	11	10	sw.	Jonh E. Graham.
Hoehne (near)	Las Animas	5,700	18	.....	.....	84†	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. W. DeBusk.
Holly	Prowers	3,380	15	31.6	− 1.8	75	1	− 7	5	59	0.16	− 0.02	0.06	3.5	3	20	8	3	se.	R. I. Arneson.
Lake Moraine	El Paso	10,265	16	19.6	− 2.4	47	21	−34	6	46	1.19	+ 0.35	0.49	19.8	5	8	16	7	sw.	Clyde C. Mc Reynolds.
Lamar	Prowers	3,592	20	31.1	− 0.7	76	24	− 5	5	46	0.20	− 0.03	0.10	2.0	3	23	4	4	w.	J. T. Lawless.
Las Animas	Bent	3,899	42	32.0	+ 5.3	74	24	− 8	6	40	T.	− 0.21	T.	0.0	0	19	7	5	nw.	F. M. Tague.
La Veta Pass	Costilla	9,000	.....	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.22	1.8	1	12	10	9	w.	Norman R. Lively.
Leadville	Lake	10,248	14	16.0	− 0.8	47	23†	−27	6	45	1.63	+ 0.57	0.64	21.1	11	.....	.....	.....	n.	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	3	28.0	.....	63	22†	−13	6	43	0.06	.....	0.06	1.0	1	25	3	3	nw.	John Lesher.
Marshall Pass	Saguache	10,846	7	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.39	25.0	7	12	10	9	w.	W. D. Lillard.
North Lake	Las Animas	8,700	.....	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.30	7.5	2	19	5	7	nw.	James W. Ingmire.
Pueblo	Pueblo	4,734	22	32.2	+ 3.1	68	24	− 8	6	43	0.13	− 0.27	0.12	2.3	2	16	12	3	nw.	U. S. Weather Bureau.
Rockyford (near)	Otero	4,177	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. K. Blinn.
St. Elmo	Chaffee	9,500	.....	.....	.....	.....	.....	.....	.....	.....	3.06	.....	2.00	25.5	7	16	5	10	sw.	Daniel Clark.
Salida	do	7,035	12	28.2	− 0.4	56	24	−15	6	35	0.77	+ 0.05	0.60	6.5	4	24	3	4	w.	M. D. L. Buell.
Santa Clara	Huerfano	8,250	15	30.6	+ 2.4	57	23	−11	6	40	0.38	− 0.87	0.20	4.0	4	13	17	1	.....	Lincoln Morris.
Sheridan Lake	Kiowa	4,065	9	27.4[a]	.....	70[b]	23	−13[a]	5	39[b]	0.10[a]	.....	0.10[a]	1.0[a]	1[a]	25	0	6	ne.	Howard Gamble.
Stonewall	Las Animas	8,000	4	.....	.....	.....	.....	.....	.....	.....	0.28	.....	0.20	5.0	3	19	10	2	.....	J. W. Shouse.
Trinidad	do	5,994	14	.....	.....	.....	.....	.....	.....	.....	0.18	− 0.32	0.18	5.2	1	22	7	2	.....	Mrs. Maggie Butler.
Victor (near)	Teller	10,100	6	28.8	.....	57	24	− 9	6	37	0.13	.....	0.09	3.0	2	26	2	3	e.	Fred Jones.
Vilas	Baca	3,935	19	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.20	0.00	0.0	0	12	15	4	sw.	Carrie Konkel.
Westcliffe	Custer	7,864	16	25.8	+ 0.7	52	23	− 20	6	44	0.45	− 0.21	0.40	7.0	3	8	16	7	nw.	Zack Jordan.
Winfield	Chaffee	9,765	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.40	17.8	10	6	17	8	w.	John G. Payne.
Wortman	Lake	11,250	9	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.67	31.7	7	.....	.....	.....	nw.	Geo. C. Wortman.
New Mexico.																				
Abbott	Mora	5,771	.....	.....	.....	74	25	− 5	6	.....	0.08	.....	0.08	1.0	1	15[a]	14[a]	1[a]	w.	El Paso & Southwest. R. R.
Albert	Union	4,700	19	41.2	+ 2.8	75	24	8	6	47	T.	− 0.26	T.	0.0	0	21	4	6	s.	Andrew Knell...
Arch (near)	Roosevelt	4,634	1	43.0[b]	.....	70	13	15	7	35	0.00	.....	0.00	0.0	0	21	9	1	w.	Wm. A. Elliott.
Aurora	Colfax	8,849	.....	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.12	4.5	2	7	21	3	nw.	Miss Juanita Lucero.
Bell Ranch	San Miguel	4,500	11	38.9	.....	78	2	− 5	6†	55	0.03	− 0.22	0.03	0.5	1	19	8	4	sw.	C. M. O'Donel.
Black Lake	Colfax	8,348	.....	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.15	2.9	3	15	10	6	w.	Ralph T. Martinez.
Cabeza	San Miguel	5,406	.....	.....	.....	.....	.....	.....	.....	.....	0.08	.....	0.05	0.5	2	19	6	6	w.	El Paso & Southwest. R. R.
Campana	do	4,493	.....	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.13	1.0	2	10	18	3	w.	Do.
Chacon	Mora	9,000	.....	.....	.....	.....	.....	.....	.....	.....	0.42	.....	0.32	4.5	2	12	19	0	w.	Alfredo Lucero.
Cimarron (near)	Colfax	6,385	6	32.6	.....	67	24	−10	7	49	0.10	.....	0.10	2.0	1	16	13	2	nw.	Wm. French.
Clayton	Union	5,178	5	37.5	.....	73	24	3	6	42	0.10	.....	0.10	1.5	1	23	7	1	w.	Dr. W. W. Chilton.
Clovis	Curry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Mendenhall.
Cuervo	Guadalupe	4,849	.....	41.6	.....	73	24	7	5†	41	0.09	.....	0.05	0.5	3	18	10	3	w.	El Paso & Southwest. R. R.
Dawson	Colfax	6,396	.....	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.30	3.0	1	27	0	4	.....	Do.
Dorsey (near)	do	6,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. T. Lambert.
Elisabethtown	do	8,465	4	22.1	.....	50	24	−23	6	50	1.36	.....	0.60	6.0	6	20	6	5	nw.	Miss Mabel Carrington.
Folsom	Union	6,399	10	.....	.....	.....	.....	.....	.....	.....	0.21	− 0.24	0.15	2.0	3	24	5	2	sw.	David Rope.
Fort Union	Mora	6,835	30	32.4	+ 0.3	67	24†	−19	6	52	0.17	− 0.28	0.17	3.0	1	.....	.....	.....	.....	M. C. Needham.
Hayden	Union	4,444	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. L. Cook.
Johnsons Park	Colfax	6,722	.....	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	22	5	4	sw.	A. J. Meloche, jr.
Lake Alice	do	7,160	1	.....	.....	.....	.....	.....	.....	.....	0.29	.....	0.17	5.2	2	.....	.....	.....	.....	Raton Water Co.
Logan	Quay	3,851	4	40.0	.....	76	24	1	6	48	0.00	.....	0.00	0.0	0	26	3	2	sw.	John B. Reneau.
Los Alamos	San Miguel	6,789	5	.....	.....	.....	.....	.....	.....	.....	0.23	.....	0.18	2.0	2	.....	.....	.....	.....	Wm. Frank, sr.
Lykins (near)	Roosevelt	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Buchanan.
Maxwell (near)	Colfax	5,894	3	.....	.....	.....	.....	.....	.....	.....	0.17	.....	0.17	2.0	1	.....	.....	.....	.....	D. N. Jackson.
Melrose	Curry	4,400	2	40.0	.....	77	25	3	6	49	0.14	.....	0.14	0.0	1	25	2	4	sw.	Miss Lois E. Porter.
Miami Ranch	Colfax	6,000	2	33.4	.....	68	26	− 9	6	47	0.30	.....	0.30	4.0	2	23	6	2	w.	Farmers' Devel. Co.
Montoya	Quay	4,335	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.1	0	18	9	4	w.	El Paso & Southwest. R. R.
Nara Visa	do	4,225	4	40.2	.....	74	24	3	5	43	0.60	.....	0.25	1.0	3	23	3	5	sw.	Willard Belknap.
Pasamonte	Union	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	18	4	9	sw.	J. J. Heringa.
Raton	Colfax	6,663	12	34.9	+ 2.5	67	24	− 7	6	43	0.18	− 0.01	0.13	3.0	2	27	1	3	s.	Prof. R. C. Crum.
Rocinda	San Miguel	8,200	6	32.8	.....	64	22	−14	6	43	1.03	.....	0.33	8.0	6	20	8	3	w.	Chas. F. Rudolph.
Roy	Mora	5,884	.....	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	0.0	1	13	15	3	sw.	El Paso & Southwest. R. R.
San Jon	Quay	4,200	3	41.0	.....	74	1	5	6	47	0.03	.....	0.02	0.5	2	21	5	5	sw.	Jesse T. White.
Solano	Mora	5,622	1	36.4	.....	69	24	3	6	38	0.05	.....	0.05	0.0	1	26	3	2	sw.	F. M. Hughes.
Springer	Colfax	5,857	14	33.4	+ 1.6	72	25	−10	7	50	0.10	− 0.13	0.10	1.0	1	30	1	0	w.	Atch., Top. & S. Fe. Ry.
Taylor	do	5,661	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.08	2.0	2	16	12	3	sw.	Do.
Trementina	San Miguel	5,000	2	.....	.....	.....	.....	.....	.....	.....	0.13	.....	0.13	0.0	1	11	18	2	sw.	Miss Alice Blake.
Tucumcari (1)	Quay	4,194	5	43.0	.....	76	24	9	5	47	0.09	.....	0.06	0.5	2	27	2	2	sw.	John F. Seaman.
Valley	Union	5,000	5	.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.18	2.0	2	22	6	3	.....	Mrs. M. Letitia Payne.
Vermejo Park	Colfax	7,600	6	30.2[d]	.....	56	23†	−19	6	50	0.47	.....	0.18	5.5	4	20	6	5	w.	H. W. Adams.
Wagon Mound (near)	Mora	6,300	1	34.6	.....	69	24	2	5	46	T.	.....	T.	T.	0	22	7	2	sw.	Guy L. Barnes
Texas.																				
Amarillo	Potter	3,676	18	39.6	+ 5.7	76	1	9	5	40	0.05	− 0.55	0.03	0.3	3	10	15	6	sw.	U. S. Weather Bureau.
Arthur City	Lamar	590	15	.....	.....	.....	.....	.....	.....	.....	0.20	− 2.35	0.10	1.0	2	16	4	11	.....	J. B. Wheeler.
Bonham	Fannin	566	7	45.6[b]	.....	77[b]	1	5	7	42[b]	0.40	.....	0.40	8.0	1	16[b]	5[b]	8[b]	n.	B. S. Lovelace.
Canadian	Hemphill	2,339	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Canadian Academy.
Channing	Hartley	.....	5	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.15	T.	1	20	0	11	s.	C. F. Land & Inv. Co.
Childress	Childress	1,869	17	.....	.....	.....	.....	.....	.....	.....	T.	− 0.90	T.	T.	0	9	12	10	n.	W. E. Davis.
Chillicothe	Hardeman	1,406	2	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.50	.....	2	13	10	8	sw.	A. B. Connor.
Clarendon	Donley	2,719	5	43.2	.....	82	1	12	7	45	T.	.....	T.	0.0	0	27	1	3	se.	J. B. McClelland.
Clarksville	Red River	442	5	47.5	.....	78	1	11	7	41	1.66	.....	0.68	3.0	5	22	5	4	.....	J. W. O'Neill.
Claude	Armstrong	3,397	5	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	Ft. Worth & Denver Cy. Ry.
Dalhart §	Dallam	3,908	5	35.4	.....	70	1†	5	5	46	0.20	.....	0.20	2.0	1	13	6	12	s.	F. L. Kennard.
Denison	Grayson	.....	2	.....	.....	.....	.....	.....	.....	.....	0.94	.....	0.52	1.5	4	15	4	12	n.	J. B. Gibson.
Finley	Bowie	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.91	.....	0.90	1.5	4	25	1	5	s.	Mrs. M. C. Myers.
Henrietta	Clay	915	15	47.2	+ 4.6	84	1†	16	7	47	T.	− 1.20	T.	T.	0	24	0	7	s.	C. K. Brown.
Hereford	Deaf Smith	3,750	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Elliott.
Lewis Ferry	Bowie	.....	1	.....	.....	.....	.....	.....	.....	.....	1.58	.....	0.50	.....	5	19	3	9	.....	P. G. Ruff.

TABLE 1.—*Climatological data for January, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.					Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																				
Memphis	Hall	2,067	5	40.4		84	25	10	5	58						22	3	6		Ft. Worth & Denver Cy. Ry.
Miami	Roberts	2,743	4	39.0		80	1	− 5	5	63	0.65		0.35	3.0	2	24	3	4	n.	J. E. Kinney.
Mobeetie	Wheeler		1								0.00		0.00	0.0	0	18	8	5	ne.	R. A. Choate.
Nazareth	Castro		4	46.8		78	25	6	6	41	0.06		0.06	0.0	1	22	5	4	sw.	Rev. P. A. Kaelin.
Ochiltree	Ochiltree		2								0.50		0.25	2.0	2					S. J. Allen.
Pampa	Gray	3 226	1	39.2		83	24	6	5	43	0.00		0.00	0.0	0					B. E. Finley.
Paris	Lamar	592	21	44.1	+ 2.2	75	1	12	7†	42	0.72	− 1.39	0.25	1.5	6	13	5	13	se.	Robert A. Miller.
Plemons	Hutchinson		3	38.1		76	1	5	5	49	0.12		0.10	0.5	2	21	6	4	sw.	C. S. Solomon.
Quanah	Hardeman	1,563	5	41.8		80	25	15	6	31						18	1	12	s.	Wm. H. Crawford.
Ringo Crossing	Hopkins										1.10		0.53	2.0	3	19	1	11	sw.	H. J. Palmer.
Romero	Hartley																			R. S. Chamberlain.
Sherman	Grayson	745	17																	R. A. Gibbs.
Sulphur Springs	Hopkins	530	18	46.2	+ 0.7	76	25	14	7	36	0.77	− 1.55	0.44	2.0	3	16	5	10		O. M. Pate.
Texline	Dallam	4,694	5																	Ft. Worth & Denver Cy. Ry.
Tulia	Swisher	3,501	12	40.9		85	25	16	6†	48	0.33	− 0.30	0.27	0.0	2	9	18	4	n.	Lou Mulhall.
Wichita Falls	Wichita	958	5																	John Gould.
Winfield	Titus													1.2		16	8	7	nw.	J. C. Bostick.
Kansas.																				
Anthony	Harper	1,329	13	35.4		72	25	3	6	37	0.80	+ 0.18	0.55	3.5	3	14	6	11	s.	R. H. Beebe.
Ashland	Clark	1,951	22	35.4	+ 2.1	74	25	0	7	43	0.66	+ 0.15	0.35	5.0	4	16	8	7	nw.	C. W. Carson.
Burlington	Coffey	1,010	17	32.2	+ 0.8	68	25	− 8	6	34	1.18	+ 0.16	0.72	4.0	4	12	13	6	s.	O. E. Sanford.
Chanute	Neosho	940	6	34.2		73	25	− 1	6	33	1.64		0.82	2.0	3	11	13	7	s.	Chase W. Brown.
Cimarron	Gray	2,700	4	31.2		70	25	− 7	5	37	0.40		0.40	3.0	1	16	7	8	nw.	Fred Mallonee.
Coldwater	Comanche	2,090	13	35.4		70	25	− 4	5	38	0.80	+ 0.01	0.47	4.0	2	21	4	6	s.	J. L. Stanley.
Columbus	Cherokee	898	20	35.1	+ 2.0	68	25	7	6	30	2.33	+ 0.38	1.16	0.2	4	16	5	10	sw.	O. E. Skinner.
Coolidge	Hamilton	3,346	13	31.0	+ 1.4	75	1	−11	5	48	0.20	− 0.02	0.20	2.0	2	19	7	5	nw.	W. R. Padley.
Cottonwood Falls	Chase	1,234	6	30.7		65	25	−13	6	39	1.49		0.85	3.0	4	13	5	13	n.	E. B. Greene.
Council Grove	Morris	1,191	1	29.6		62	25	−14	6	39	1.70		0.90	5.0	4	18	13	0	s.	Jas. Sharpe.
Cunningham	Kingman	1,680	26	33.6	+ 3.3	66	31	− 5	5	42	1.23	+ 0.57	1.03	2.0	2	12	9	10	nw.	W. H. Morton.
Dodge City	Ford	2,513	36	31.1	+ 3.8	71	25	− 7	6	38	0.26	− 0.21	0.18	2.4	3	13	8	10	w.	U. S. Weather Bureau.
El Dorado	Butler	1,291	8	33.8		65	25	− 7	6	36	1.17		0.94	2.0	3	20	2	9	s.	W. Y. Miller.
Ellinwood	Barton	1,788	35	30.6	0.0	67	25	− 8	5†	35	0.86	+ 0.10	0.54	4.5	2	9	12	10	nw.	Martin Musil.
Emporia	Lyon	1,138	29	31.3	+ 3.0	64	25	− 4	6	33	1.76	+ 1.08	0.96	6.0	3	15	8	8	s.	W. H. Boyles.
Eureka	Greenwood	1,093	14	32.8		72	25	− 8	6	36	1.10	+ 0.15	0.60	5.0	2	12	8	11	nw.	T. C. Peffer.
Fall River	do	925	14	34.7		73	25	− 6	6	38	1.35	+ 0.34	0.50	0.0	3	13	7	11	s.	J. McDaniel.
Fargo	Seward		1																	Frank Swink.
Fredonia	Wilson	864	7	35.5		72	25	− 2	6	37	1.65		0.55	1.5	4	15	6	10	nw.	B. W. Holmes.
Garden City	Finney	2,836	21	31.4	+ 0.8	73	25	−10	5†	43	0.50	+ 0.18	0.40	4.0	2	17	12	2	n.	B. F. Stocks.
Great Bend	Barton	1,850	1																	J. A. Pritchard.
Greensburg	Kiowa	2,235	3	33.1		67	25	− 4	5	35	1.50		1.00	5.0	2	17	2	12	nw.	C. C. Raymond.
Grenola	Elk	1,116	23	33.0	+ 0.8	72	25	− 4	6	40	1.18	− 0.05	0.60	1.0	3	18	2	11	n.	R. M. Lawyer.
Howard §	do	1,112	3								1.07		0.65	1.0	3	15	3	13	n.	J. W. Eby.
Hugoton	Stevens		6	34.7		77	24†	− 7	6	60	0.16		0.12	3.0	3	22	6	3	s.	E. M. Anderson.
Hutchinson	Reno	1,535	20	31.6	+ 0.5	66	31	− 4	6	41	1.67	+ 1.07	1.25	3.0	2	16	4	11	nw.	E. S. Webster.
Independence	Montgomery	816	37	37.6	+ 5.8	72	25	4	6	40	0.97	− 0.59	0.61	T.	4	12	8	11	s.	F. L. Kenoyer.
Iola	Allen	984	4	32.2	+ 4.6	69	25	− 3	6	31	1.15	+ 0.17	0.61	2.5	4	13	7	11	nw.	U. S. Weather Bureau.
Jetmore	Hodgeman	2,268	9	30.5		70	25	−11	5	41	0.57		0.43	3.0	2	8	15	8	sw.	James Aiken.
Kingman	Kingman	1,504	2	33.4		66	25	− 3	6	39	1.04		0.55	3.0	2	14	5	12	nw.	B. B. Anawalt.
La Crosse	Rush	2,061	8	29.3[a]		70[a]	25	−11[a]	5	40[a]	0.33		0.17	2.0	2	14	5	12	nw.	Rodney Torrey.
Lakin	Kearney	2,993	20	30.2	− 1.0	72	25	− 8	7	44	0.42	+ 0.15	0.25	5.0	2	16	10	5	w.	C. H. Longstreth.
Larned	Pawnee	2,090	25	30.4		63	31	− 8	5†	37	0.38	+ 0.12	0.20	2.0	2	14	5	12	n.	H. H. Wolcott.
Lebo	Coffey	1,138	24	30.4	+ 1.4	66	25	−10	6	32	1.36	+ 0.24	0.70	4.5	3	14	6	11	nw.	J. J. Bowman.
Le Roy	do	990	1								1.10		0.63	4.3	3	15	1	15	s.	F. W. Schmitt.
Liberal	Seward	2,843	3	35.1		76	25	− 4	5	43	0.38		0.25	2.5	3	18	2	11	se.	Dr. R. T. Nichols.
Mc Pherson	Mc Pherson	1,495	21	30.8	+ 1.3	60	25	− 5	6	29	1.48	+ 0.68	1.17	3.0	3	15	6	10	nw.	Mrs. Nelia Poling.
Macksville	Stafford	2,032	21	32.2	+ 1.6	69	25	− 6	5	40	0.80	+ 0.18	0.45	4.0	3	11	8	12	nw.	Ed. F. Haberlein.
Madison	Greenwood	1,074	9																	C. A. David.
Marion	Marion	1,310	17	30.0	− 1.2	63	25	−12	6	33	1.33	+ 0.70	0.90	3.0	5	11	11	9		D. D. McIntosh.
Medicine Lodge	Barber	1,475	17	33.4	+ 0.2	72	25	− 4	5†	47	0.84	+ 0.42	0.54	3.5	5	16	6	9	s.	S. P. Garrison.
Medora	Reno	1,484	1																	M. L. Richenbrode.
Mount Hope	Sedgwick	1,410	13								1.00	+ 0.33	0.52	3.0	2	16	6	9	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	5								1.47		0.52	4.0	4	18	1	12	s.	Susan P. Whipple.
Ness City	Ness	2,260	17								0.46	+ 0.04	0.36	4.5	2					J. K. Barnd.
Newton	Harvey	1,454	13	32.0	+ 0.6	66	25	− 5	6	35	1.67	+ 1.01	0.95	3.0	3	14	6	11	nw.	C. F. Walden.
Norwich	Kingman	1,496	14	34.5	+ 1.0	69	25	1	6	32	1.02	+ 0.44	0.69	3.0	3	11	8	12	nw.	N. I. Farris.
Oswego	Labette	899	16	37.1	+ 2.3	71	25	6	6	36	1.93	+ 0.22	1.24	0.0	4	13	8	10	sw.	Jos. M. Currigan.
Pratt	Pratt	1,950	15	32.0	+ 0.2	65	25†	−10	6	38	1.88	+ 1.27	1.40	4.0	6	19	6	6		E. H. Ellsworth.
Rome	Sumner	1,218	24	35.2	+ 1.8	71	25	0	6	38	0.77	− 0.21	0.45	2.0	2	15	3	13	n.	D. M. Adams.
Sedan	Chautauqua	834	25	37.0	+ 3.5	75	25	− 1	6	40	0.99	− 0.40	0.47	4.6	3	19	2	10	s.	A. Y. Buckles.
Toronto	Woodson	1,040	13	34.6	+ 2.8	66	1†	− 8	6	48	1.25	+ 0.15	1.25	2.0	1	15	1	15	n.	M. A. Webb.
Ulysses	Grand	3,027	19	33.0[b]	+ 1.3	72[a]	1	− 6[b]	5	40[b]	0.55	+ 0.19	0.30	3.0	2	4	23	4	sw.	T. W. Marshall.
Walnut	Crawford	940	8	35.0		71	24	3	6	35	1.50		0.78	T.	2	16	4	11	nw.	R. C. Harlan.
Wichita	Sedgwick	1,377	23	33.0	+ 3.3	66	25	− 1	6	31	0.55	− 0.22	0.32	0.8	3	13	8	10	nw.	U. S. Weather Bureau.
Winfield	Cowley	1,124	16	33.8	+ 1.2	69	25	− 3	6	35	1.74	+ 0.73	1.33	4.0	2	19	1	11	s.	M. B. Light.
Yates Center	Woodson	1 068	31	33.2[b]	+ 2.4	72[a]	25	3[b]	7	41[b]	0.94	− 0.41	0.56	3.0	2	14[b]	5[b]	10[b]	nw.	J. W. Tipton.
Oklahoma.																				
Ada	Pontotoc	1,001	3																	Dr. J. P. McKinley.
Alva	Woods	1,350	6	38.6		75	25	4	7	38						21[c]	3[c]	2[c]	s.	L. W. Sandefur.
Apache	Caddo	1,255	1	41.6[c]		81[c]	25	15[c]	5†	47[c]	1.10[c]		0.62[c]	0.0[c]	3[c]	20	1	10	s.[c]	G. D. Teeter.
Arapaho	Custer	1,575	17	40.0	+ 3.2	85	1	9	6	43	1.03	+ 0.49	0.78			20	2	9	nw.	Geo. E. Marsh.
Ardmore	Carter	872	9	43.0	+ 0.7	78	1	16	6†	43	1.75	+ 0.38	1.20	0.0	3	16	5	10	s.	H. T. Nisbett.
Bartlesville	Washington	687	4	39.0		76	25	7	6	41	1.20		0.60	0.0	2	18	4	9	nw.	Dr. A. P. Owens.
Beaver	Beaver	2,500	14	36.4	+ 3.8	75	1†	−10	5	48	0.65	+ 0.13	0.40	5.0	4	23	5	3	nw.	W. C. Fraser.
Blackburn	Pawnee	800	6	40.6	+ 3.4	77	1	8	6	49	1.58	+ 0.12	0.90	0.0	3	16	6	9	s.	J. Landis.
Cache	Comanche	1,350	5	38.0		80	1	3	5	51	1.30		1.05	0.0	2	16	4	11	n.	Frank Rush.
Calvin	Hughes	713	6								1.12		0.82	0.0	3	19	0	12	s.	Thomas Purcell.
Chandler	Lincoln	865	6	40.1[a]	+ 1.3	78[a]	1	11	5	45	1.00	− 0.18	0.60	0.0	2	15	5	11	s.	Chas. L. Tuttle.
Chattanooga	Comanche	1,150	5	41.0		84	25	12	4	49	0.90		0.45	0.0	3	17	4	10	n.	Squire Humble.
Chickasha	Grady	1,091	10	42.5[c]	+ 2.3	80[c]	25	15[c]	5	39[c]	1.00	+ 0.05	0.46	0.0	3	21[c]	1[c]	6[c]	n.	J. C. Good.
Cloud Chief	Washita	1,400	10	42.5	+ 2.8	84	1	12	6	49	0.77	+ 0.22	0.45	T.	3	18	7	6	sw.	J. P. Stutzman.
Dacoma	Woods	1,337	13	37.8	+ 1.7	79	25	4	6	44	0.49	− 0.36	0.26	0.0	2	13	13	5	nw.	R. H. Bruce.
Durant	Bryan	643	10	43.2	+ 1.5	76	1	18	6	40	1.07	− 0.37	0.50	0.2	4	15	6	10	n.	Nelson Houk.
Eldorado	Jackson	1,456	4	43.8[b]		87[b]	2	12[b]	5	57[b]	0.58	− 0.90	0.26	0.0	4	3[b]	12[b]	5[b]	se.	T. W. Lanham.
El Reno	Canadian	1,400	19	39.0		74	25	11	5	42	1.03		0.68	0.0	2	18	8	5	n.	Pearl Maddox.
Enid	Garfield	1,269	11	37.8	+ 1.8	75	1	7	7	49	0.85		0.75	1.0	3	20	5	6	s.	Uri. B. Worcester.
Erick	Beckham	2,058	7	41.8		89	1	10	7	48	0.02		0.02	0.2	1	15	7	9	s.	A. W. Hanes.
Fairland	Ottawa	839	11	38.2	+ 0.2	72	25	9	7	38	2.37	+ 0.56	1.50	T.	3	11	8	12	s.	C. W. Pryor.

TABLE 1.—*Climatological data for January, 1910. District No 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Oklahoma—Cont'd.																			
Fort Gibson	Muskogee	556	6								1.01		0.50	0.0	3	20	1	10	w.	John T. Welsh.
Frederick	Tillman	1,293	7	42.9		84	11†	14	6	48	0.69		0.31	0.0	3	19	1	11	n.	B. B. Bradley.
Gage	Ellis	2,136	8	39.2[f]		69[f]	31	− 2[f]	7	49[f]	0.40		0.40	4.0	1	16[f]	5[f]	4[f]	s[f].	C. H. Holmes.
Goodwell	Texas	3,300																		S. W. Black.
Guthrie	Logan	1,000	8																	G. W. Derrick.
Guymon	Texas	3,133	1								0.30		0.30	3.0	1					A. L. Mordt.
Harrington	Roger Mills	2,200	7	40.8		80	1†	8	6	54	0.00		0.00	0.0	0	18	3	10	sw.	T. Compton.
Hartshorne	Pittsburg	700	12	44.1	+ 2.0	75	3	13	6	47	1.20	− 0.73	0.60	0.0	2	23	0	8	n.	Edward Glendenning.
Healdton	Carter	900	17	41.4	0.0	81	1	8	7	54	0.28	− 1.43	0.15	0.0	3	17	7	7	n.	C. H. Heald.
Helena	Alfalfa	1,398	3																	Frank Horsfall.
Hennessey	Kingfisher	1,166	16	39.5	+ 1.4	80	1	8	6	44	0.34	− 0.00	0.28	T.	2	13	10	8	s.	W. W. Parks.
Hobart	Kiowa	1,396	7	42.1		88	1	14	6	43	1.40		0.90	T.	3	12	10	9	s.	Roy Benedict.
Holdenville	Hughes	900	10	41.4	+ 1.3	73	1	16	5†	37	0.85	− 1.01	0.80	0.0	2	18	4	9	s.	Miss M. Rutherford.
Hooker	Texas	2,999	5	35.6		75	1†	− 9	5	43	0.26		0.25	3.0	2	15	2	14	n.	H. N. Kelley.
Hurley	Cimarron	3,600	2	36.6		73	24	− 3	5	45	0.30		0.30	3.0	1	20	7	4	sw.	C. W. Meyers.
Idabel	McCurtain	474	3																	M. L. Henderson.
Jefferson	Grant	1,062	17	36.2	+ 1.0	72	25	5	6	35	2.68	+ 1.91	1.50	0.0	2	15	6	10	nw.	T. E. Beck.
Kenton	Cimarron	4,000	11	36.4	+ 0.3	75	24	0	6	48	0.10	− 0.28	0.10	1.0	1	22	6	3	s.	L. A. Wikoff.
Kingfisher	Kingfisher	1,046	13	40.4	+ 1.8	82	1	11	6	48	0.91	− 0.22	0.68	T.	2	15	6	10	s.	J. C. Cross.
McAlester	Pittsburg	698	18	45.4	+ 3.8	76	1	15	6	40	1.44	− 1.00	0.81	0.0	3	20	0	11	s.	Wm. Noble.
McComb	Pottawatomie	1,200	16	41.7	+ 2.8	76	1	12	4†	50	1.05	− 0.21	0.53	0.0	2	14	7	10	n.	Jas. E. McNair.
Mangum	Greer	1,585	18	38.7	− 2.1	82	24	12	6	51	0.25	− 0.69	0.25	0.0	1	16	4	11	s.	M. J. Northcuff.
Marlow	Stephens	1,292	10	40.2	+ 0.3	82	26	14	6	47	0.28	− 0.76	0.25	0.0	2	14	3	14	se.	W. B. Anthony.
Meeker	Lincoln	1,030	17	40.9	+ 3.5	78	1	11	6	42	1.59	− 0.02	1.15	0.0	4	21	1	9	n.	Dr. J. B. Baugh.
Muskogee	Muskogee	614	12	41.4	+ 2.6	73	1	14	6†	37	0.72	− 0.97	0.72	0.0	1	17	3	11	se.	Prof. E. N. Collette.
Mutual	Woodward		4	39.0		84	11†	6	6	50	0.64		0.64	0.0	1	21	0	10	n.	Thos. Martin.
Neola	Caddo	1,500	5	41.4		80	1	13	6	46	1.24		1.24	0.0	1	18	5	8	s.	R. N. Schooling.
Newkirk	Kay	1,149	14	37.6	+ 1.8	73	25†	3	6	44	1.92	+ 0.53	1.25	0.0	2	18	6	7	n.	P. H. Albright & Co.
Norman	Cleveland	1,171	17	43.7	+ 5.3	78	1	9	7	39	1.11	+ 0.05	0.66	T.	2	14	7	10	s.	Walter H. Meier.
Oakwood	Dewey	1,854		37.2		82	1	7	6†	48	0.51		0.30	2.0	2	15	10	6		Dr. F. P. Osborn.
Okeene	Blaine	1,194	7	38.2		84	1	9	6†	47	0.57		0.32	0.6	3	18	6	7	nw.	Dr. L. H. Murdoch.
Oklahoma	Oklahoma	1,247	21	39.3	+ 5.4	75	25	11	5	36	0.89	− 0.45	0.59	T.	5	12	10	9	s.	U. S. Weather Bureau
Okmulgee	Okmulgee	752	8	40.8[b]		77[b]	1	11[b]	7	50[b]	T.		T.	0.0	0	18	1	12	n.	J. L. Maynard.
Pauls Valley	Garvin	880	11																	A. M. Foss.
Pawhuska	Osage	918	12	39.4	+ 1.9	76	25	8	5†	43	1.11	− 0.42	0.43	T.	4	15	11	5	s.	R. C. Block.
Perry	Noble	1,060	13	38.8	+ 1.6	76	1	6	5†	40	1.15	− 0.08	0.70	0.5	4	16	6	9	n.	J. A. Douglas.
Ravia	Johnson	796	9	43.7		75	25	15	17	45	1.12		0.82	0.0	2	17	2	12	n.	R. G. Guptill.
Sac & Fox Agency	Lincoln	900	18	41.4	+ 2.6	71	25	12	5	39	0.46	− 0.78	0.46	0.0	1	22	0	9	nw.	D. B. Taylor.
Shawnee	Pottawatomie	1,041	10	40.6	+ 0.9	77	1	11	5	46	0.34	− 0.78	0.20	0.0	2	18	3	10	s.	Neal R. Clark.
Snyder	Kiowa	1,356	4	42.2[a]		83[a]	1	16[a]	6	44[a]	1.03		0.45	0.0	3	13[a]	6[a]	5[a]	se.	Dr. W. G. Woodard.
Stillwater	Payne	880	18	37.8	+ 0.6	78	1	7	3	48	1.19	− 0.07	0.57	0.0	5	19	1	11	s.	J. M. Speidel.
Supply	Woodward	2,100	3	36.5		82	25	− 5	6	56	0.49		0.45	4.5	2	20	3	8	s.	A. H. Trumbo.
Tulsa (1)	Tulsa	700	22	42.0		73	1	11	6	26	1.18	− 0.53	0.93	0.0	2	19	6	6	n.	William Hall.
Vinita	Craig	698	7	38.8		70	1†	10	5	39	2.11		1.50	T.	3	15	4	12	s.	C. E. Lahman.
Wagoner	Wagoner	588	14	39.0[a]	+ 1.6	73[a]	1	10[a]	7	42[a]	1.56	− 0.62	0.96	0.0	3	21[a]	0[a]	9[a]	n.	S. L. Hatfield.
Waukomis	Garfield	1,258	14	38.4	+ 0.9	79	1	9	5	43	0.45	− 0.63	0.30	0.0	2	19	4	8	nw.	R. C. Shades.
Waurika	Jefferson	988		43.8		84	25	15	7	52	0.10		0.05	0.0	2	19	5	7	s.	B. A. Swindler.
Weatherford	Custer	1,639	9	40.6	+ 2.7	86	1	11	5†	38	0.82	+ 0.08	0.72	0.0	2	13	5	13	n.	M. D. Reed.
Webbers Falls	Muskogee	479	12	39.5	− 0.8	74	25	11	7	41	0.50	− 1.56	0.50	T.	1	10	12	9	nw.	B. D. Boulineau.
Whiteagle	Kay	945	5	38.4		74	25	6	5	40	1.12		0.67	1.0	2	12	9	10	nw.	J. M. Dankwardt.
Woodward	Woodward	1,886	1	37.9		83	1	0	6	47	0.46		0.46	2.5	1	21	3	7	s.	R. A. Boyle.
Missouri.																				
Belle	Maries		18	28.5[a]	− 4.3	62[a]	18	3[a]	7	41[a]	0.43[a]	− 2.00	0.40[a]	T.[a]	2[a]	3[b]	13[b]	13[b]	n.[b]	A. J. Wofford.
Birchtree	Shannon	1,200	17	31.1[c]	− 3.9	72[c]	1	5[c]	6	33[c]	1.21[c]	− 0.50	0.60[c]	0.0[c]	3[c]	14[c]	4[c]	8[c]	s.[c]	V. H. Kirkendall.
Cape Girardeau	Cape Girardeau	346	5								0.65		0.60	6.0	6	12	12	7	s.	D. L. Albert.
Caruthersville	Pemiscot		20	38.2	− 0.7	68	1†	− 4	7	36	3.30	− 0.81	1.01	10.0	6	17	3	11	n.	H. E. Averill.
Dean	McDonald		11	38.0	+ 0.6	75	1	6	7	47	1.30	− 0.80	0.55	T.	6	18	1	12	sw.	H. E. Dean.
Doniphan	Ripley	440	6	35.4[a]		64[a]	2	− 1[a]	7	34[a]	0.46		0.26[a]	4.0[a]	2[a]	17	3	11	n.	W. W. Martin.
Farmington	St. Francois	889	3	34.2		64	1	8	7	34	2.14		0.90	0.5	5	22	1	8		Miss Carrie Sneed.
Gano	Dent.		7	35.4		68	1	3	6	31	1.82		0.88	0.3	7	11	8	12	nw.	A. C. Leech.
Goodland	Iron	900	5	34.5		66	1	5	6	42	1.69		0.85	0.0	3	14	1	16	n.	F. M. Adams.
Greenville	Wayne		16	37.0	+ 1.6	70	1	− 2	7	39	2.12	− 0.50	1.00	3.0	4	11	16	4	nw.	A. G. Templeton.
Hollister	Taney			41.4		76	1	10	6	52	0.84		0.60	T.	3	17	0	14	sw.	W. P. Chapman.
Ironton	Iron	925	32	34.8	+ 2.8	68	1	6	6	31	1.44	− 1.57	0.60	0.5	7	11	5	15	nw.	W. H. Delano.
Jackson	Cape Girardeau	458	19	36.8	+ 3.0	68	1	− 3	7	32	0.97	− 2.80	0.52	1.0	5	12	8	11	n.	L. M. Bean.
Joplin	Jasper	979	32	39.3		68	1	9	5†	36	2.45	+ 0.29	0.65	0.0	5	20	1	10	n.	Miss E. Russum.
Koshkonong	Oregon	911	10	37.8		74	1	7	7	32	1.34	− 2.06	0.52	0.4	6	16	5	10	nw.	J. W. Hitt.
Lamar	Barton	964	30	34.2	+ 1.6	72	25	2	3	45	1.67	− 0.03	0.93	T.	2	13	6	12	sw.	E. H. Adams.
Marble Hill	Bollinger	420	19	35.4	+ 1.3	69	1	− 8	7	40	1.99	− 1.43	0.55	4.5	9	12	6	13	n.	A. F. Hendricks.
Mountaingrove	Wright	1,400	11	34.6		66	1	5	6	31	0.85	− 1.96	0.50	T.	4	13	6	12	s.	Mo. Fruit Exp. Station.
Mount Vernon	Lawrence	1,480	34	36.2	+ 1.3	70	25	0	5	41	1.05	− 1.15	0.50	T.	4	11	10	10	nw.	Dr. O. H. Brown.
Neosho	Newton	1,023	27	37.9	+ 3.0	72	25	8	6	37	1.89	− 0.62	0.67	T.	6	16	1	14	sw.	W. O. Buck.
New Madrid	New Madrid	285	16								2.38	− 2.71	0.90	4.0	10	7	2	22	se.	Miss Josie Smith.
Oakfield	Franklin	793	18	33.5	+ 1.0	63	1	2	6	30	2.61	+ 0.13	1.60	3.5	9	8	13	10	nw.	E. E. Stines.
Olden	Howell	1,246	20	35.0	− 0.6	70	1	5	6	39	1.21	− 1.83	0.76	0.5	2	9	7	15	nw.	J. D. Evans.
Perryville	Perry	582	1	35.2		61	26	2	7	39	2.08		1.70	2.3	3	12	0	19	nw.	Superintendent of Schools.
Rolla	Phelps	1,092	29	34.2		67	1	2	6	29	2.18	− 0.20	0.87	1.1	7	14	5	12	sw.	Prof. P. J. Wilkins.
Sikeston	Scott	328	15	36.9	− 0.5	67	1	− 6	7	32	3.98	− 0.48	1.10	8.0	7	17	2	12	nw.	A. A. Harrison.
Springfield	Greene	1,350	22	34.4	+ 3.1	71	25	5	6	33	0.98	− 1.68	0.56	6.0	5	16	0	15	nw.	U. S. Weather Bureau.
Steelville	Crawford	746	14	34.6[b]		66[b]	2	4[b]	6	44[b]	0.37	− 1.99	0.15	T.	3	15	5	11	sw.	Edwin Pumphrey.
Willowsprings	Howell	1,300	17								1.59	− 1.96	0.92	0.0	4	17	0	14	w.	John Lovewell.
Kentucky.																				
Blandville	Ballard	445	30	35.2	+ 3.0	63	1	− 4	7	29	3.74	− 1.10	1.54	8.8	7	10	6	15	nw.	E. W. Horr.
Lynnville	Graves		9	36.3		63	26	−12	7	36	4.52		2.37	17.4	7	15	3	13	s.	Wm. Scherffius.
Tennessee.																				
Arlington	Shelby		28																	A. T. B. Etheridge.
Bolivar	Hardeman	450	23	38.8	+ 0.9	67	26	6	7	37	4.42	− 0.47	2.15	3.0	8	14	0	17	n.	Miss M. A. Smith.
Brownsville	Haywood	361	25	40.6[b]		67	2	6	7	33	4.66				5	11[b]	5[b]	13[b]	n.	Miss Hattie N. Moses.
Covington	Tipton	311	23	38.7	− 0.1	66	1	− 1	8	33	3.92	− 0.85	1.25	14.0	5	14	1	16	s.	J. S. Ruffin.
Dyersburg	Dyer	310	27	37.8	+ 1.1	65	1†	4	7†	34	4.35	− 0.59	1.40	11.5	5	17	0	14	n.	Miss M. A. Sinclair.
Jackson	Madison	450	17	42.0[a]	+ 2.7	71	26	3	7	36	3.71	− 0.44	1.85	3.0	5	13	5	13	nw.	T. H. Hartmus.
Kenton	Obion		8	38.7		67	26	− 1	7	34	4.00		1.15	18.0	9	14	4	13	n.	G. S. Martin.
Memphis	Shelby	469	39	42.7	+ 2.4	69	1	12	7	35	3.69	− 1.52	1.97	8.0	5	14	4	13	nw.	U. S. Weather Bureau.
Milan	Gibson	440	27	36.2		65	2†	− 3	7	31	3.42		1.15	9.0	8	9	5	17	s.	O. F. Cantwell.
Trenton	do	345	27	38.3	+ 1.0	66	26	− 1	8	47	5.72	+ 0.34	1.98	10.0	5	16	2	13	nw.	Prof. F. L. Dennison.
Union City	Obion	360	12	37.7		64	1†	−12	7	44	3.08		1.20	12.0	7	14	7	10	n.	J. B. Kinzey.

TABLE 1.—*Climatological data for January, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arkansas.																				
Alicia	Lawrence		6	40.2	.....	72	1	3	7	40	3.45	.....	1.40	6.0	4	21	6	4	sw.	McCullough & Guelck.
Amity	Clark	250	18	42.9	+ 0.8	76	1	2	7	44	1.74	− 2.94	0.54	7.0	5	18	4	9	sw.	Prof. S. M. Samson.
Arkadelphia (near)	do	250	3	45.3[a]	.....	77[a]	1	6[a]	7	43	3.25	.....	0.95	7.5	8	.....	.....	.....	sw.	J. A. Ross.
Arkansas City	Desha	145	27	.....	.....	.....	.....	.....	.....	.....	6.19	+ 1.54	2.70	.....	7	.....	.....	.....	.....	W. C. Blundell.
Batesville (2)	Independence	271	6	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.40	4.0	10	.....	.....	.....	.....	Miss Lelia I. Teter.
Bee Branch	Van Buren		18	42.0	+ 0.9	74	1	2	7	38	3.25	− 0.97	0.90	8.0	6	.....	.....	.....	.....	J. E. Scanlon.
Benton	Saline	283	3	42.1[b]	.....	76[b]	25	10[c]	7	42[c]	3.10	.....	2.00	5.0	7	.....	.....	.....	.....	J. E. Evans.
Bentonville	Benton	1,303	5	37.4	+ 3.3	70	1	7	7	32	1.34	− 1.29	0.55	0.4	7	16	4	11	nw.	U. S. Weather Bureau.
Bergman	Boone	1,324	14	35.4	− 0.5	70	1	1	6	37	0.74	.....	0.45	2.0	4	19	3	9	nw.	John T. Maxey.
Black Rock	Lawrence		6	.....	.....	.....	.....	.....	.....	.....	2.36	.....	0.81	4.0	7	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	24	41.8	+ 0.5	76	1	− 3	7†	51	4.19	− 0.74	1.31	8.0	6	.....	.....	.....	.....	H. L. D. Whitson.
Calico Rock	Izard	361	6	.....	.....	.....	.....	.....	.....	.....	2.06	.....	1.00	3.0	5	.....	.....	.....	.....	W. H. Stoner.
Camden	Ouachita	158	23	46.7	+ 3.7	78	1	4	7	40	2.86	− 2.62	1.32	2.7	8	14	4	13	sw.	R. H. Quarterman.
Centerpoint	Howard		10	46.2	.....	78	1	7	7	39	1.67	.....	0.50	5.0	5	17	6	8	nw.	J. M. Huddleston.
Clarendon	Monroe	171	6	.....	.....	.....	.....	.....	.....	.....	3.38	.....	1.30	9.2	10	.....	.....	.....	.....	Mrs. B. E. Bishop.
Conway	Faulkner	309	27	43.0	+ 3.8	75	1	1	7	37	2.59	− 1.45	0.70	4.0	7	15	9	7	nw.	G. H. Burr.
Corning	Clay	293	18	39.4	+ 4.3[c]	72	1	3	7	34	2.28	− 1.60	0.80	6.5	8	12	10	9	s.	Jacob Brobst.
Dardanelle	Yell	330	24	40.8	.....	76	1	1	7	52	.....	.....	.....	2.0	.....	.....	.....	.....	.....	A. Bernard.
Dennard	Van Buren			.....	.....	.....	.....	.....	.....	.....	3.99	.....	2.03	4.1	6	19	4	8	s.	Fred B. Brown.
Dodd City	Marion	1,175	29	37.3[b]	+ 2.2	74[b]	1	6[d]	7	42[d]	0.99	− 1.88	0.61	4.0	3	.....	.....	.....	n.	Neal Dodd.
Dutton	Madison		9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Edward Mize.
Earl	Crittenden		4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Moss.
Eldorado	Union	265	6	46.2	.....	77	1	15	7	42	4.04	.....	1.97	0.2	7	.....	.....	.....	.....	Fred A. Babb.
England	Lonoke		4	44.8	.....	77	1	2	7	35	2.35	.....	0.60	5.0	5	.....	.....	.....	.....	J. C. Chenault.
Eureka Springs	Carroll		9	40.3	.....	72	1	8	6	39	1.49	.....	0.70	T.	3	11	10	10	sw.	S. H. Britts.
Fayetteville	Washington	1,451	21	39.8	+ 4.4	71	1	9	6	34	1.44	− 1.28	0.65	1.0	6	19	4	8	sw.	University of Arkansas.
Fort Smith	Sebastian	481	28	41.7	+ 3.4	76	1	12	7	34	1.18	− 1.33	0.45	0.2	7	15	7	9	e.	U. S. Weather Bureau.
Fulton	Hempsted	264	6	.....	.....	.....	.....	.....	.....	.....	1.80	− 2.16	0.60	4.0	4	.....	.....	.....	.....	B. C. Logan.
Hardy	Sharp	643	12	38.4	− 0.3	74	1	7	7	31	2.63	− 1.33	0.66	5.0	9	10	8	13	sw.	C. A. Caywood.
Helena (2)	Phillips	182	9	43.0	+ 1.7	74	1	7	7	34	5.50	− 0.03	2.18	2.0	8	.....	.....	.....	.....	B. F. Modisett.
Hot Springs	Garland	600	4	41.4	.....	74	1	2	7	40	2.50	.....	0.77	3.2	6	25	0	6	w.	Hot Springs Water Co.
Huttig	Union	85	3	46.7[e]	.....	72[e]	26	16[e]	7	37[e]	4.48	.....	1.58	0.2	5	.....	.....	.....	.....	C. A. Berry.
Jonesboro	Craighead	345	15	40.0	− 0.4	73	1	10	6	40	1.50	− 4.66	0.80	8.4	5	17	8	6	s.	Benedictine Sisters.
Junction	Union		17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Lowderback.
Lake Farm	Jefferson	195	3	43.0	.....	74	1	6	7	38	2.82	.....	1.20	6.0	4	.....	.....	.....	s.	R. H. Gillespie.
Lewisville	Lafayette	262	7	47.5	.....	77	1	10	7	40	2.90	.....	0.86	4.1	8	15	7	9	.....	F. W. Youmans.
Little Rock	Pulaski	357	31	44.1	+ 3.5	75	1	10	7	32	2.76	− 2.03	0.77	6.1	6	18	4	9	nw.	U. S. Weather Bureau.
Lutherville	Johnson	775	13	40.6	+ 1.1	74	1	3	7	36	2.13	.....	0.75	4.0	7	16	8	7	nw.	Herman Hentschel.
McNeil	Columbia	321	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. A. Smith.
Malvern	Hot Spring	277	23	43.5[b]	+ 2.4	76	1	0	7	41[c]	2.92	− 2.79	0.73	5.5	6	.....	.....	.....	.....	Miss L. C. Smith.
Mammoth Spring	Fulton		6	37.2[a]	.....	73[a]	1	2[a]	7	38[a]	2.21	.....	0.60	7.4	6	.....	.....	.....	.....	F. Wallick.
Marked Tree	Poinsett		6	.....	.....	.....	.....	.....	.....	.....	3.46	.....	1.08	9.0	7	.....	.....	.....	.....	L. Smith.
Mena	Polk	1,100	24	43.2	+ 3.4	70	1	7	7	32	1.46	− 2.35	0.50	4.0	6	19	4	8	.....	D. H. Hopkins.
Mossville	Newton		17	38.0	+ 2.8	68	2	10	6†	30	1.89	− 2.25	1.20	3.0	3	13	2	16	s.	Theo. Ober.
Mount Nebo	Yell	1,750	20	37.0[f]	− 0.3	69	1	− 3[i]	6	34[i]	3.05	− 0.24	2.01	8.0	4	23	2	6	sw.	T. G. Church.
Newport (1)	Jackson	231	26	39.0	+ 0.8	70	1	5	7	36	1.21	− 3.68	0.50	5.5	8	.....	.....	.....	.....	L. R. Cobb.
Ozark	Franklin	377	19	41.9	+ 2.2	73	1	12	7	34	1.72	− 0.98	0.60	2.0	6	22	5	4	e.	R. M. Adams.
Pine Bluff	Jefferson	215	22	46.2	+ 3.7	74	1†	3	7	41	2.48	− 3.18	0.96	6.0	7	.....	.....	.....	.....	J. M. Hudson.
Pocahontas	Randolph	.....	18	40.4	+ 4.9	78	1	1[c]	7	42[c]	2.42	− 1.82	0.90	3.5	7	10	12	9	.....	Benedictine Sisters.
Pond	Benton	1,250	13	38.4	.....	72	1	8	6†	41	1.10	− 1.55	0.56	T.	3	5	12	14	sw.	A. F. Stevens.
Portland	Ashley	122	1	46.2	.....	77	1	17	7†	43	5.52	.....	2.02	0.5	7	.....	.....	.....	.....	T. A. Corson.
Prescott	Nevada	327	22	42.7	+ 0.4	77	1	− 1	7	42	2.66	− 2.20	0.85	10.0	7	.....	.....	.....	.....	A. M. Ellsworth.
Rogers	Benton	1,385	19	39.0	+ 4.2	71	1	8	6	39	1.64	− 0.91	1.08	T.	3	16	1	14	n.	Carl A. Stark.
Spielerville	Logan	1,050	13	42.6[a]	+ 1.4	77[a]	1	10[a]	6†	39[a]	1.40	− 2.08	0.73	2.5	3	20	1	10	w.	New Subiaco Abbey.
Springbank	Miller	182	3	.....	.....	.....	.....	.....	.....	.....	2.49	.....	0.90	2.5	8	.....	.....	.....	.....	G. Field.
Stuttgart	Arkansas	495	23	42.6	+ 0.8	76	1	− 2	7	32	3.15	− 2.29	0.80	6.5	7	15	7	9	n.	H. A. Buerkle.
Texarkana	Miller	332	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. F. Quinn.
Warren	Bradley	304	15	44.8	+ 1.4	77	1	10	7	41	3.85	− 1.16	1.71	2.0	4	.....	.....	.....	.....	W. J. Savage.
Whitecliffs	Little River	206	6	.....	.....	.....	.....	.....	.....	.....	1.92	.....	0.42	.....	7	.....	.....	.....	.....	John E. Payton.
Wiggs	Garland	.....	17	43.0	+ 1.3	75	1	0	7	45	2.19	− 2.68	0.84	3.0	5	16	10	5	sw.	S. D. Jester.
Wynne	Cross	.....	2	39.5	.....	73	1	− 7	7	44	3.27	.....	0.78	7.2	9	.....	.....	.....	.....	R. R. Poole.
Mississippi.																				
Anguilla	Sharkey	107	2	48.2	.....	74	3	18	7	34	5.02	.....	2.00	0.2	6	16	2	13	s.	E. W. Cook.
Austin	Tunica	200	14	43.4	0.0	72	1	6	7	38	5.79	− 0.18	1.93	4.0	4	17	5	9	nw.	H. J. Irvine.
Batesville	Panola	230	22	42.6	− 1.1	74	3	7	7	40	5.45	+ 0.68	2.00	1.5	5	19	1	11	s.	J. M. Cox.
Byhalia	Marshall	390	1	.....	.....	.....	.....	.....	.....	.....	5.11	.....	2.02	3.0	5	7	15	9	nw.	Tallahatchie Drng. Com.
Canton	Madison	228	20	49.1	+ 2.7	74	2	19	7	35	2.54	− 2.80	1.39	0.0	6	13	6	12	nw.	Dr. G. W. Smith-Vanis.
Clarksdale	Coahoma	177	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Durham.
Coffeeville	Yalobusha	241	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tallahatchie Drng. Com.
Corinth	Alcorn	470	22	41.2	+ 0.9	70	26	10	7†	37	4.22	.....	2.14	T.	7	14	1	16	s.	M. A. Candler.
Crenshaw	Panola	187	1	.....	.....	.....	.....	.....	.....	.....	5.45	.....	2.17	1.2	6	16	6	9	se.	Tallahatchie Drng. Com.
Denmark	LaFayette		1	.....	.....	.....	.....	.....	.....	.....	4.74	.....	1.42	1.0	6	.....	.....	.....	.....	Do.
Duck Hill	Montgomery		11	45.1[c]	.....	72[c]	4	13[c]	7	37[c]	6.23	.....	2.84	T.	4	16[c]	1[c]	10[c]	se.	W. H. Eskridge.
Edwards	Hinds	222	23	49.8	+ 2.1	76	2†	16	7	36	3.90	− 1.44	2.12	T.	7	11	11	9	n.	C. R. Knox.
Enid	Tallahatchie		1	.....	.....	.....	.....	.....	.....	.....	5.05	.....	1.65	1.0	6	12	6	13	n.	Tallahatchie Drng. Com.
Fayette	Jefferson	270	9	49.2[a]	+ 0.9	76[a]	3	12[a]	8	41[a]	4.73	− 0.89	2.60	0.0	2	15[a]	8[a]	7[a]	s.	T. L. Darden.
Greenville	Washington	126	23	45.5	+ 0.3	75	1	16	7	41	6.58	+ 1.92	2.96	0.5	8	18	0	13	se.	F. L. Harbison.
Greenwood	Le Flore	140	10	45.0	.....	75	2	16	7	40	5.63	+ 0.76	2.34	0.5	8	11	8	12	n.	J. H. Stephen.
Grenada	Grenada	194	1	.....	.....	.....	.....	.....	.....	.....	3.31	.....	1.70	0.3	4	16	13	3	nw.	Tallahatchie Drng. Com.
Hernando	De Soto	391	22	42.1	+ 0.3	69	1†	9	7	34	4.60	.....	.....	3.0	.....	14	5	12	n.	Mrs. Sarah B. Jones.
Hickory Flat	Benton	435	1	.....	.....	.....	.....	.....	.....	.....	4.22	.....	1.20	0.0	5	15	3	13	n.	Tallahatchie Drng. Com.
Holly Springs	Marshall	600	23	39.4[a]	− 1.5	68	2	6	7†	35[b]	5.14	+ 0.49	2.66	2.0	9	12	4	15	sw.	L. B. Mosby.
Kosciusko	Attala	437	20	44.6	− 0.7	72	2	16	7	38	4.11	− 0.87	2.60	0.0	9	17	7	7	nw.	E. L. Lucas.
Lake Cormorant	De Soto	206	1	.....	.....	.....	.....	.....	.....	.....	4.92	.....	1.85	5.5	6	10	13	8	se.	Tallahatchie Drng. Com.
Lula	Coahoma	182	1	.....	.....	.....	.....	.....	.....	.....	5.10	.....	1.95	2.0	5	15[a]	1[a]	14[a]	se.	Do.
Malone	Marshall		1	.....	.....	.....	.....	.....	.....	.....	5.75	.....	2.00	1.0	5	11	9	11	e.	Do.
Marks	Quitman	163	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Natchez	Adams	206	22	51.0	+ 1.2	77	26	21[c]	7†	41	4.85	− 0.40	2.83	T.	5	13	6	12	n.	J. C. Weir, jr.
New Albany	Union	398	1	.....	.....	.....	.....	.....	.....	.....	4.60	.....	1.81	0.4	5	15	7	9	n.	Tallahatchie Drng. Com.
Pontotoc	Pontotoc	475	21	44.6	+ 1.3	70	2†	10	7	38	5.22	+ 0.34	1.55	2.5	5	17	2	12	se.	Dr. C. W. Bolton.
Port Gibson	Claiborne	116	22	47.4	− 0.8	76	26	18	7†	47	4.41	− 0.85	2.53	0.0	6	14	7	10	e.	H. H. Crisler.
Ripley	Tippah		11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. W. Pegram.
Rosedale	Bolivar	143	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Shelby.
Senatobia	Tate	284	1	.....	.....	.....	.....	.....	.....	.....	5.05	.....	1.98	0.0	5	13	6	12	n.	Tallahatchie Drng. Com
Shoccoe	Madison	.....	7	48.9	.....	74	2†	14	7	37	3.32	.....	1.55	0.9	5	22	2	7	s.	J. C. Pitchford.
Suffolk	Franklin	.....	9	51.7	.....	75	26	17	7	35	3.76	.....	1.25	T.	6	15	6	10	n.	Prof. Geo. H. Kent.
Swan Lake	Tallahatchie	148	9	.....	.....	.....	.....	.....	.....	.....	5.12	.....	2.00	T.	5	.....	.....	.....	.....	B. F. Saunders.

TABLE 1.—*Climatological data for January, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi—Cont'd.																				
Tchula	Holmes	130	5	48.2	.....	82	2	11	7	39	5.75	.....	2.25	T.	4	8	15	8	w.	Dr. M. P. Winkler.
University	LaFayette	502	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. H. Dorroh.
Utica	Hinds	287	6	50.0	.....	76	2	17	7	36	3.20	.....	1.27	0.0	7	14	7	10	n.	Dr. J. B. Dudley.
Vicksburg	Warren	247	39	50.2	+ 3.2	72	26	21	7	27	3.85	− 1.82	2.51	T.	8	13	4	14	se.	U. S. Weather Bureau.
Water Valley	Yalobusha	330	21	45.0	+ 1.5	72	2	8	7	36	5.10	− 0.23	1.20	1.0	6	14	6	11	s.	Miss Loula Erikson.
Woodville	Wilkinson	560	17	52.1	+ 2.0	76	26	19	7	34	4.79	− 0.75	1.91	0.0	6	20	7	4	n.	James E. Lee.
Yazoo City	Yazoo	116	16	46.8	+ 0.6	76	25	19	7	40	5.54	+ 0.46	2.70	0.0	7	20	2	9	n.	H. S. Orr.
Louisiana.																				
Abbeville	Vermilion	18	22	54.7	+ 1.3	77	26	23	7†	35	2.19	− 2.30	0.80	0.0	7	16	11	4	se.	Hon. C. J. Edwards.
Alexandria	Rapides	77	19	49.4	+ 0.1	76	2	18	7†	44	4.01	− 0.97	1.70	0.0	3	13	5	13	n.	Miss Nellie Graham.
Amite	Tangipahoa	130	22	52.1	+ 0.8	74	1†	29	7	44	3.97	− 1.55	1.32	0.0	4	7	23	1	s.	Miss Lula M. Wentz.
Baton Rouge	E. Baton Rouge	35	22	54.0	+ 2.5	74	13	24	7	31	2.89	− 1.91	0.95	0.0	6	16	5	10	se.	Elmo M. Bott.
Burnside	Ascension	20	10	52.8[f]	+ 0.3	74[f]	13†	23[f]	7	35[f]	3.14	− 1.03	1.62	0.0	6	21	6	4	n.	C. S. McFarland.
Burrwood	Plaquemines	1	20	57.8	+ 1.9	75	3	31	7	35	1.94	− 1.89	0.87	0.0	4	11	9	11	se.	Graham Myers.
Calhoun	Ouachita	180	17	49.2	+ 4.5	75	1†	16	7	41	5.37	+ 1.18	2.55	0.5*	6	14	4	13	sw.	N. L. Exp. Station.
Cameron	Cameron	6	15	54.2	+ 2.5	70	11†	25	7	30	.....	.....	.....	.....	.....	6	23	2	se.	State Biologic Station.
Cheneyville	Rapides	67	20	53.9	+ 4.3	85	5	21	7	56	2.50	− 2.22	2.50	0.0	1	22	3	6	n.	Walter I. Tanner.
Clinton	East Feliciana	113	20	52.6	+ 1.7	75	5†	20	8	40	3.87	− 1.35	1.38	0.0	5	11	6	14	n.	John A. White, Jr.
Collinston	Morehouse	65	8	46.1[b]	.....	76[a]	2	18[b]	6	44[b]	6.21	.....	2.25	0.1	6	18	6	7	.....	W. A. Page.
Covington	St. Tammany	39	17	51.7	+ 2.0	79	3	21	8†	48	2.39	− 2.02	0.73	0.0	7	14	4	13	n.	C. Champagne.
Dodson	Winn	.....	1	51.2[a]	.....	75[a]	1†	17[a]	7	37[a]	3.66	.....	2.40	0.0	4	17	6	8	s.	J. P. Lucas.
Donaldsonville	Ascension	33	20	55.7	+ 2.3	78[a]	4†	23	7	46[a]	3.95	− 0.28	1.95	0.0	4	21	0	10	e.	John F. Park.
Farmerville	Union	177	20	43.6[f]	− 3.4	72[f]	3†	16[f]	6	43[f]	3.59	− 1.03	1.58	T.	6	19	2	10	n.	W. P. Chandler.
Ferriday	Concordia	.....	3	50.3[a]	.....	76[a]	3†	17[a]	7†	42[a]	2.32	.....	2.00	T.	3	18	5	8	n.	R. Z. Sclater.
Franklin	St. Mary	10	18	54.0	+ 1.5	77	5†	24	8	42	2.91	− 0.59	1.30	0.0	6	13	8	10	n.	Miss Josephine M. Bonney.
Grand Cane	De Soto	302	4	48.5	.....	74	2†	18	8	44	1.09	.....	0.90	0.0	3	14	1	16	n.	J. J. Paxton.
Grand Coteau	St. Landry	93	23	54.7	+ 1.8	77	2	22	7	36	3.68	− 0.92	2.00	T.	6	18	9	4	sw.	St. Charles College.
Hammond	Tangipahoa	44	15	53.1	+ 0.9	78	5	20	8	40	1.95	− 2.67	0.93	0.0	4	23	4	4	nw.	C. C. Carr.
Houma	Terrebonne	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Haggerty.
Jennings	Calcasieu	30	12	52.8	+ 0.2	76	2†	22	7†	36	3.96	− 0.94	2.23	0.0	6	12	17	2	se.	J. F. Buch.
Lafayette	Lafayette	36	21	52.6	+ 0.3	76	3†	21	7	41	3.13	− 1.13	1.45	0.0	9	14	6	11	e.	J. J. Davidson.
Lake Charles	Calcasieu	22	22	53.4	+ 1.9	78	26	20	7	42	5.38	+ 0.53	3.29	0.0	4	20	1	10	n.	A. O. Boudreaux.
Lakeside	Cameron	.....	9	56.6	.....	75	4†	26	7	32	2.84	.....	1.90	0.0	3	18	1	12	ne.	Miss L. T. Nunnemacher.
Lawrence	Plaquemines	6	18	53.9	+ 0.4	77	2†	26	7†	43	2.04	− 0.81	1.02	0.0	4	20	2	9	n.	H. C. Warmoth.
Liberty Hill	Bienville	.....	23	50.7	+ 2.2	78	1†	15	7	44	3.96	− 0.46	1.39	0.5	7	17	2	12	s.	Dr. E. A. Crawford.
Logansport	De Soto	192	6	.....	.....	.....	.....	.....	.....	.....	2.64	.....	1.00	T.	6	16	0	15	s.	Mrs. Bettie M. Dennis.
Melville	St. Landry	45	21	50.8	− 0.6	78	17	22	7†	44	4.06	− 0.87	2.70	T.	5	12	8	11	s.	Chas. B. McNeill.
Minden	Webster	194	18	46.2	− 1.3	78	1	15	8	46	3.08	− 0.46	1.10	0.3	9	13	6	12	s.	Miss Ethel Fort.
Monroe	Ouachita	82	22	49.1	+ 1.1	80	26	20	7	42	4.06	− 0.17	1.40	0.5	9	20	1	10	ne.	Kenneth F. Stiles.
Morgan City	St. Mary	14	3	.....	.....	.....	.....	.....	.....	.....	3.27	.....	1.59	0.0	4	18	6	7	e.	Virgil E. Kinsey.
Newellton	Tensas	.....	3	50.0	.....	77	26	20	7	37	3.85	.....	2.00	0.0	6	20	10	1	n.	John D. Fultz.
New Iberia	Iberia	15	20	56.0	+ 2.1	77	5†	24	7	38	2.73	− 1.29	1.10	0.0	5	20	7	4	nw.	Mrs. Jno. A. Gebert.
New Orleans (1)	Orleans	51	40	55.2	+ 2.2	76	5	27	7	37	2.68	− 1.95	0.93	0.0	7	19	10	2	s.	U. S. Weather Bureau.
New Orleans (2)	do	18	21	55.8	+ 3.2	79	4†	27	7†	39	2.83	− 0.80	1.18	0.0	4	12	9	10	s.	Sugar Exp. Station.
Opelousas	St. Landry	83	18	52.1	+ 0.5	79	2	21	7	43	3.37	− 0.78	2.05	0.0	5	10	10	11	e.	Andrew Moresi.
Plain Dealing	Bossier	268	18	48.2	+ 2.0	78	1	13	7	41	1.64	− 2.59	0.80	1.8	5	20	1	10	se.	Leon Sanders.
Rayne	Acadia	44	18	54.4	+ 1.0	75	2†	23	7	34	4.04	− 0.91	2.25	0.0	5	19	3	9	n.	A. P. McNeil.
Reserve‖	St. John Baptist	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Leon Godchaux Co., Ltd.
Robeline	Natchitoches	147	13	47.5	− 0.1	79	12	15	7	55	2.50	− 0.22	2.32	0.0	2	13	10	8	n.	Miss Ruby McCook.
Ruston	Lincoln	312	13	49.5[a]	+ 2.9	74[a]	1†	18[a]	7	38[a]	5.00	+ 0.99	1.50	0.2	5	17	4	10	sw.	J. C. H. McKinney.
St. Francisville	West Feliciana	115	6	51.6	.....	75[a]	2†	21	7†	38[a]	2.82	.....	1.80	0.0	4	22	1	8	s.	L. P. Kilbourne.
Schriever	Terrebonne	17	17	.....	.....	.....	.....	.....	.....	.....	3.25	− 0.20	2.06	0.0	4	14	6	11	e.	Chas. V. Moore.
Shreveport	Caddo	249	39	49.4	+ 3.2	73	1	20	7	31	2.67	− 1.75	1.19	0.4	10	14	7	10	se.	U. S. Weather Bureau.
Simmesport	Avoyelles	.....	5	.....	.....	.....	.....	.....	.....	.....	4.41	.....	2.16	0.0	7	8	6	17	s.	C. T. Leigh.
Southern Univ. Farm	Jefferson	.....	15	.....	.....	.....	.....	.....	.....	.....	2.31	− 1.08	1.20	0.0	4	18	6	7	se.	F. L. St. Martin.
Sugartown	Calcasieu	.....	17	52.9	+ 1.6	75	2	21	7	34	2.81	− 2.07	1.99	0.0	2	10	20	1	.....	G. W. Richardson.
Tallulah	Madison	91	2	47.4[c]	.....	78[c]	2†	15[c]	7†	41[c]	3.79	.....	2.57	0.0	3	14	8	9	.....	C. E. Speed.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
| Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2—*Daily precipitation for January, 1910. District No. 7, Lower Mississippi Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blaine	Cimarron																																0.00
Buena Vista	Arkansas	T.	T.	.40													.13	.13															0.66
Calhan	Big Sandy																																
Canon City	Arkansas		.20		.33																												0.53
Colorado Springs	Fountain		T.	.15	T.													T.										T.					0.15
Cripple Creek	Oil Creek			.19	T.																					T.		.02					0.21
Cuchara Camps	Cucharas	.09	.04	.44								T.				T.	T.	.03									T.						0.60
Eads	Big Sandy																																
Fairview	St. Charles																																
Florence	Arkansas		.40																														
Garfield	Little Arkansas	.06	.20		.19								T.				.11	.42								T.	T.	T.		.05			0.40
Glen Eyrie	Fountain		.03	.38	.03													.02										T.					1.03
Hamps	Big Sandy			*	.13													.03															0.46
Hermit Lake	Grape Creek	.19	.98	.24	.37								.28				.17	.91															0.16
Hoehne (near)	Purgatoire																																3.14
Holly	Arkansas		.05	.05	.06							T.						T.															
Lake Moraine	Fountain		.49	.30	.24													.14									.02						0.16
Lamar	Arkansas		.05	.05	.10																												1.19
Las Animas	do		T.															T.															0.20
La Veta Pass	Cucharas			.22																													T.
Leadville	Arkansas	.09	.07	.12	.20			.03	T.			T.	T.				.04	.64					T.			.12	.09	.10		.13			0.22
Limon (near)	Big Sandy				.06													T.															1.63
Marshall Pass	Arkansas																																0.06
North Lake	Purgatoire	T.	T.	*	.30	T.											T.		.10														
Pueblo	Arkansas	T.	T.	.12	T.	T.									T.			.01										T.					0.40
Rockyford (near)	do																																0.13
Saint Elmo	Chalk Creek	2.00	.31	.11	.21								.03				.10	.30												T.			
Salida	Arkansas	.03	.08		.60													.06															3.06
Santa Clara	Cucharas		.03		.13	T.							T.					.02										.20		T.			0.77
Sheridan Lake	Arkansas		T.	.10													T.																0.38
Stonewall	Purgatoire		.02	.06	.30	T.												T.															0.10
Trinidad	do			T.		T.												T.	T.									.18					0.28
Victor	Oil Creek		.04	.09														T.								T.							0.18
Vilas	Cimarron																																0.13
Westcliffe	Grape Creek				.40													.03										.02					0.00
Winfield	Clear Creek	.40	.05	.01	.25			T.	T.			.08				T.	.06	.15								T.	.01	.01		.02			0.45
Wortman	Arkansas	.14	.10	T.	T.	.24	.06	T.	T.			T.	.24	T.	T.	T.		T.			.67	T.	T.			T.	.26		T.				1.04
New Mexico.																																	1.65
Abbott	Canadian				.08																												
Albert	do			T.	T.							T.																					0.08
Arch (near)	Red																																T.
Aurora	Canadian			T.	.12	.10												T.															0.00
Bell Ranch	do				T.	.03																											0.22
Black Lake	do		.15		.12													.10															0.03
Cabeza	do			.03								T.	.05																				0.37
Campana	do			.08								.13																					0.08
Chacon	do			.10	.32													T.															0.21
Cimarron (near)	do			.10	T.	T.																											0.42
Clayton	do				.10								T.																				0.10
Clovis	Red																																0.10
Cuervo	Canadian			T.	.05							.03	.01																				
Dawson	do			.30																													0.09
Dorsey (near)	do																																0.30
Elizabethtown	do	.04	.47		.09								.10				.06	.60															
Folsom	Cimarron			.01	.05																							.15					1.36
Fort Union	Canadian				.17	T.																											0.21
Hayden	do																																0.17
Johnson's Park	do			*	.20																							T.				
Lake Alice	do				.17																							.12					0.20
Logan	do																																0.29
Los Alamos	do			.18	.05																												0.00
Lykins (near)	Red																																0.23
Maxwell (near)	Canadian			.17																													
Melrose	Red			T.	T.	T.							.14																				0.17
Miami Ranch	Canadian			*	.30																												0.14
Montoya	do			T.																													0.30
Nara Visa	do				.10							T.	.25	.25																			T.
Passamonte	do											T.																					0.60
Raton	do			.05	.13																							T.					T.
Rociada	do		.27	.14	.33	.13							.06				.10																0.18
Roy	do											.10																					1.03
San Jon	do			T.	.02							T.	.01																				0.10
Solano (1)	do											.05																					0.03
Springer	do			.10		T.																											0.05
Taylor	do			.08		.08																											0.10
Tremeutina	do											.13																					0.16
Tucumcari (1)	do			T.	.03							.06																					0.13
Valley	Cimarron			*	.18	T.																											0.09
Vermejo Park	Canadian			.18	.18	.07												.04															0.18
Wagon Mound (near)	do			T.	T.	T.																						T.					0.47
Texas.																																	T.
Amarillo	Canadian			T.	.03							.01	.01		T.																		
Arthur City‖	Red					.10							.10																				0.05
Bonham	do			T.	.40																												0.20
Canadian	Canadian																																0.40
Channing‖	do		T.		.15										T.																		
Childress	Red				T.																												0.15
Chillicothe	do			.17									.50																				T.
Clarendon	do			T.	T.																												0.67
Clarksville	do				.40	.30								.68					.17		.11											T.
Claude	do																																1.66
Dalhart‖	Canadian				.20																												0.00
Denison‖	Red				.16	.52	.14						.12						T.										T.				0.20
Finley‖	do					.26	.15						.60								.90												0.94
Henrietta‖	do				T.																												1.91
Hereford	do																																T.
Lewis Ferry‖	do					.08	.50						.20						.30		.50												
Memphis	do																																1.58
Miami	Canadian				.30							T.	.35																				
Mobeetie‖	Red																																0.65
Nazareth	do											T.	.06																				0.00
Ochiltree	Canadian			.25									.25																				0.06
Pampa‖	do																																0.50
Paris‖	Red			T.	.10	.14	.18						.25	T.				.03										.02					0.00
																																	0.72

TABLE 2.—*Daily precipitation for January, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Plemons	Canadian				.02							T.	.10																				0.12
Quanah‖	Red																																
Ringo Crossing‖	do					.37	.20							.53																			1.10
Romero	Canadian																																
Sherman	Red																																
Sulphur Springs‖	do				T.		.21							.44															.12				0.77
Tealine‖	Canadian																																
Tulia	Red			.27										.06																			0.33
Wichita Falls	do																																
Winfield	do																																
Kansas.																																	
Anthony	Arkansas		T.	T.	.55								.24				.01		T.													0.80
Ashland	Cimarron				.12	.16						.03	.35	T.			T.															0.66
Burlington	Neosho				.72								.37				.04													.05			1.18
Chanute	do		.20		.82	T.							.62				T.																1.64
Cimarron	Cimarron		T.		.40							T.						T.												T.			0.40
Coldwater	do				.47	T.						T.	.33																				0.80
Columbus	Neosho		.02		1.16		T.						.50	.65			T.	T.															2.33
Coolidge	Arkansas			*	.20																												0.20
Cottonwood Falls	Neosho				.60								.85				.03	.01												T.			1.49
Council Grove	do				.30	.30							.90																.20				1.70
Cunningham	Arkansas				.20							T.	1.03				T.		T.														1.23
Dodge City	do		T.	.06	.12							.08																					0.26
El Dorado	do				.20								.94				.03		T.														1.17
Ellinwood	do		T.		.54								.32					T.												T.			0.86
Emporia	Neosho				.70								.96				T.													T.	.10		1.76
Eureka	Verdigris		T.	T.	.60	T.							.50				T.													T.			1.10
Fall River	do		T.		.50				.35				.50																				1.35
Fargo	Cimarron																																
Fredonia	Virdigris		T.	T.	.55	.05							.44	.01			T.	T.												T.			1.05
Garden City	Arkansas		T.	T.	.40							.10					T.																0.50
Great Bend‖	do																																
Greensburg	do				1.00								.50																				1.50
Grenola	Verdigris				.60								.57				.01																1.18
Howard	do		T.		.65								.12		.30		T.		T.														1.07
Hugoton	Cimarron		T.		.12						.03	.01																					0.16
Hutchinson	Arkansas				.42								1.25																				1.67
Independence	Verdigris		T.		.61	.01							.33	.02			T.													T.			0.97
Iola	Neosho		T.	T.	.61							T.	.51				.01														.02		1.15
Jetmore	Arkansas		T.		.43							T.	.14																				0.57
Kingman	do				.55								.49				T.	T.															1.04
La Crosse	do				.16							T.	.17					T.															0.33
Lakin	do			T.	.25							.17																					0.42
Larned	do		T.		.20								.18				T.																0.38
Lebo	Neosho				.70								.61				T.	T.	T.											.05			1.36
Le Roy‖	do				.63								.05	.42			T.	T.												T.			1.10
Liberal	Cimarron			T.	.25							.02	.11					T.															0.38
McPherson‖	do		T.	T.	.45	T.						*	.35				T.																0.80
Mackaville‖	Arkansas		T.		.30								1.17				.01																1.48
Madison	Verdigris																																
Marion	Neosho	T.	T.		.35							T.	.90				.02	.01												.05			1.33
Medicine Lodge	Arkansas			*	.54							*	.25			.05																	0.84
Medora‖	do																																
Mt. Hope	do				.52								.48																				1.00
Neosho Rapids‖	Neosho				.26	.45							.52	.24			T.		T.											T.			1.47
Ness City	Arkansas	T.			.36							*	.10																				0.46
Newton	do				.69								.95				.03																1.67
Norwich	do		T.		.69							T.	.32				.01	T.															1.02
Oswego	Neosho		.02		1.24								.60				.07																1.93
Pratt	Arkansas			*	.40							*	1.40			*	.08	T.															1.88
Rome	do				.45								.32																				0.77
Sedan‖	Verdigris			T.	.46							.47	.06																				0.99
Toronto‖	do				1.25																												1.25
Ulysses‖	Cimarron			.30								.25						T.															0.55
Walnut	Neosho				.72	T.							.78	T.		T.														T.			1.50
Wichita	Arkansas		T.		.23							.02	.30			T.	T.	T.															0.55
Winfield	do		T.	T.	1.33								.41				T.																1.74
Yates Center	Verdigris		T.	T.	.56								.38				T.														T.		0.94
Oklahoma.																																	
Ada	Canadian																																
Alva	Arkansas																																
Apache	Red				.62							T.	.27	.30	T.																		1.19
Arapaho	Washita																																
Ardmore‖	Red				.35	1.20								T.				T.	.20														1.75
Bartlesville	Arkansas			T.	.60								.60																				1.20
Beaver	Canadian			.10	.40							.10	.05																				0.65
Blackburn	Arkansas				.48								.90	.20																				1.58
Cache	Red			.25									1.05																					1.30
Calvin	Canadian				.20	.82								.10																				1.12
Chandler‖	do		T.	T.	T.	.40								.60																				1.00
Chattanooga	Red			T.	.30								.15	.45																				0.90
Chickasha	Washita			T.	.46								.14	.40																				1.00
Cloud Chief	do				.45								.07	.25																				0.77
Dacoma	Cimarron				.26								.23																					0.49
Durant‖	Red				.19	.50	T.							.18					.20															1.07
Eldorado	do			.20	.26								.10	.20				T.																0.58
El Reno	Canadian				.68								.35																					1.03
Enid	Cimarron				.05	.05								.75																				0.85
Erick	Red		T.		.02								T.																					0.02
Fairland	Arkansas	.03	T.		.84		T.							1.50																				2.37
Fort Gibson	do		T.		.18	.50								.33		T.	T.											T.					1.01
Frederick	Red			T.	.22								.16	.31																				0.69
Gage	Canadian			.40																														0.40
Goodwell	do																																
Guthrie	Cimarron																																
Guymon	Canadian		.30																														0.30
Harrington	Red																																0.00
Hartshorne	Canadian			.60	.60		T.																										1.20
Healdton	Red		T.		.10	T.								.03					.15														0.28
Helena	Cimarron																																
Hennessey	do				.28								.26																				0.54
Hobart	Red				.21								.90	.29	T.																		1.40
Holdenville‖	Canadian				.05	.80								T.					T.														0.85
Hooker	do				.25	T.						T.	.01																					0.26

TABLE 2.—*Daily precipitation for January, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oklahoma—Cont'd.																																	
Hurley	Canadian			.30								T.																					0.30
Idabel	Red																																
Jefferson	Arkansas		T.		1.50							T.	1.18																				2.68
Kenton	Cimarron	T.	T.	.10								T.																					0.10
Kingfisher	do		T.		.68								.23																				0.91
McAlester	Canadian			T.	.81									.32					.31														1.44
McComb	do		.55	T.									.50																				1.05
Mangum	Red				.25																												0.25
Marlow	Washita		T.	.03	T.	.25							T.					T.															0.28
Meeker	Canadian		.15	.12	.17									1.15																			1.59
Muskogee	Arkansas		T.		.72								T.			T.																	0.72
Mutual	Canadian				.64																												0.64
Neola	Washita													1.24																			1.24
Newkirk	Arkansas			1.25									.67																				1.92
Norman	Canadian			T.	.45	T.							.66																				1.11
Oakwood	do			T.	.30								.21																				0.51
Okeene	Cimarron		T.	T.	.32							T.	.22	.03																			0.57
Oklahoma	Canadian		.01	.02	.27								.56	.03	T.			T.															0.89
Okmulgee	do		T.	T.	T.								T.			T.																	T.
Pauls Valley	do																																
Pawhuska	Arkansas	.12			.43								.42				.14																1.11
Perry	do				.70	.02						T.	.34	.09																			1.15
Ravia	Washita				.82														.30														1.12
Sac & Fox Agency	Canadian		T.			.46							T.																				0.46
Shawnee	do			T.	.14									.20																			0.34
Snyder	Red				.45								.43	.15																			1.03
Stillwater	Cimarron			.16	.04	.36							.06	.57																			1.19
Supply	Canadian				.45	T.							.04			T.																	0.49
Tulsa (1)	Arkansas				.25	.93																											1.18
Vinita	do		T.		1.50		T.						.42	.19																			2.11
Wagoner	do		T.	T.	.96		T.						.38	.22																			1.56
Waukomis	Cimarron		T.		.15								.30																				0.45
Waurika	Red			.05	.05													T.															0.10
Weatherford	Canadian				.10	.72																											0.82
Webbers Falls	Arkansas				.50																												0.50
Whiteagle	do				.67								.45																				1.12
Woodward	Canadian				.46																												0.46
Missouri.																																	
Belle	Meramec												.03	.40																T.			0.43
Birchtree	Black				.27	.60								.34																			1.21
Cape Girardeau	Mississippi					.01	.60							.01	.01				.01		.01												0.65
Caruthersville	do			T.	T.	1.03	.85							.35			.05	T.	.87		.15			T.									3.30
Dean	Neosho		.01		.55		.16							.55		.01	.02	T.															1.30
Doniphan	Black		T.		T.	T.	.26							.20		T.	T.	T.															0.46
Farmington	Mississippi				.90									.79				.15	.25												.05		2.14
Gano	Meramec	T.	T.	.06	.07	.74		T.					.12	.76			.04													.03	T.		1.82
Goodland	Black					.85								.79			.05																1.69
Greenville	Mississippi				T.	1.00								.70			T.	T.	.32		.10												2.12
Hollister	White				.20		T.							.60				.04															0.84
Ironton	Mississippi	.02	T.	.02		.60	T.							.60	T.		T.	.07	.10					T.						.03		1.44
Jackson	do											.52					.06	.20	.15											.04		0.97
Joplin	Neosho			.45	.25	T.						.50	.65	.60																			2.45
Koshkonong	Black			T.	.24	.52	.03						T.	.34		T.	.04		.17														1.34
Lamar	Neosho			T.	.93	T.							.74				T.	T.													.05		1.67
Marble Hill	Mississippi					.45	.40					.20		.55			.04	.10	.15		.05												1.99
Mountaingrove	White			T.	.07	.50							T.	.19			T.	T.	.09											T.			0.85
Mount Vernon	Neosho		.01		.30								.24	.50																			1.05
Neosho	do	.05	.03		.60	T.	T.						.50	.67			.04																1.89
New Madrid	Mississippi				.04		.52	.35	.01					.13	.10				.10	.90		.22	.01										2.38
Oakfield	Meramec		T.	.01	.34	.48							1.25	.35			.03	.02				T.								.02	.11		2.61
Olden	White					.76													.45														1.21
Perryville	Mississippi					T.		.08						1.70		T.	T.		.30														2.08
Rolla	Meramec		T.	.08		.72						T.	.87	.41			T.	.02						T.					.07		.01		2.18
Sikeston	Mississippi		.42		T.	.56	.80							.75			.11	T.	1.10		.24												3.98
Springfield	White		.03		.38	T.	.01						.50	.06		T.	T.	T.											T.	T.			0.98
Steelville	Meramec		T.		.12	.15						T.	.10			T.	T.												T.	T.			0.37
Willow Springs	White				.92							.35	.22				.10																1.59
Kentucky.																																	
Blandville	Mississippi		.05			.61	.87							.34			.13	1.54			.20												3.74
Lynnville	do		T.	T.			2.37							.85			.07	.06	.84		.27			.06									4.52
Tennessee.																																	
Arlington	Mississippi																																
Bolivar	do					.78	2.15	.10							.28				.68	.03	.18	.22											4.42
Brownsville	do	T.			T.		*	3.45					T.	.38		T.	T.		.68	T.	.15												4.66
Covington	do					1.25	1.25							.25					.96		.21												3.92
Dyersburg	do					1.20	1.40							.55	T.		T.		.90		.30	T.											4.35
Jackson	do			T.		1.85	.30							.32			T.	T.	.86		.38			T.									3.71
Kenton	do			.05		1.05	1.15							.70			.05	T.	.73		.23	.02		.02									4.00
Memphis	do			T.	T.	1.95	.36							.42		T.		T.	.61		.35												3.69
Milan	do				.05	.50	1.15	T.						.04	.60			T.	.90	T.	.10	.08		T.	T.								3.42
Trenton	do			T.	T.	1.98	1.00							1.42					1.17		.15			T.									5.72
Union City	do						1.20							.71			.04	.04	.87		.20			.02									3.08
Arkansas.																																	
Alicia	White					.60								1.40				T.	.95		.50												3.45
Amity	Ouachita		T.	T.	.30	.54	.18							.25				T.	.47														1.74
Arkadelphia (near)	do			.02	.38	.40	.95							.63					.25		.72												3.35
Arkansas City	Mississippi					1.00	2.70								.10				.25	.20	1.50	.44											6.19
Batesville (2)	White			.02	.12	.28	.40							.08	.18		.02	.01	.36		.18												1.65
Bee Branch	Arkansas			T.	.30	.90	.80							.60		T.		T.	.30		.35												3.25
Benton	Ouachita		*	2.00		*	.50							.17			.20			.23													3.10
Bentonville	Arkansas		T.	.16	.46		.02						.32	.22			.02	.14															1.34
Bergman	White				.12	.45								.13					.04														0.74
Black Rock	do			T.	.05	.65	.40							.17	.06		T.		.81		.22												2.36
Brinkley	do				T.	.20	.80								1.31				1.08		.68	.12											4.19
Calico Rock	do			T.	T.	1.00	.30							.20			T.		.48		.08												2.06
Camden	Ouachita				.16	.48	.26	.04						.16	.08				.36		1.32	T.												2.86
Centerpoint	Red			T.	.25	.32								.20				.50		.40													1.67
Clarendon	White				.05	.18	1.10	.02						.13	.18			T.	.87	.01	.76	.08												3.38
Conway	Arkansas			.11	.40	.40	.40							.21		T.		T.	.70		.37												2.59
Corning	White			.04	.03	.52	.43							.30			.04	T.	.80		.12												2.28
Dardanelle	Arkansas																																
Dennard	White			.04	.37	.67	.41							2.03					.47														3.99
Dodd City	do					.61	.08							.30																			0.99
Dutton	do																																

TABLE 2.—*Daily precipitation for January, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Arkansas—Cont'd.																																	
Earl	St. Francis																																
Eldorado‖	Ouachita	T.			.10	.20	1.30	T.							.21				.21		1.97	T.							.05				4.04
England‖	Arkansas					.45	.50							.20	T.	T.	T.		.60		.60												2.35
Eureka Springs	White			T.	T.	.70	T.							.57				.22															1.49
Fayetteville	do			T.	.65	.17	T.						.04	.47				.03	.08														1.44
Fort Smith	Arkansas			.09	.31	.02							.28	.17		.01		.30		T.													1.18
Fulton‖	Red					.44	.40												.36		.60												1.80
Hardy	White			.20	.30	.50	.35							.22		T.	.15	.02	.66		.23												2.63
Helena (2)‖	Mississippi				T.	.96	2.18	.10							.38				.96	.06	.48	.38											5.50
Hot Springs	Ouachita				.39	.33	.44							.27					.77		.30												2.50
Huttig	do					1.58	.63												.25		1.97								.05				4.48
Jonesboro	White	.10				.20	.60							.25							.35												1.50
Junction	Ouachita																																
Lake Farm	Arkansas				.20		.60											.82		1.20												2.82
Lewisville	Red			.12	.50	.22	.35							.34					.46		.86								.05				2.90
Little Rock	Arkansas		T.	T.	.63	.61								.17		T.		.22	.55	T.	.58											2.76
Lutherville	do			.17	.25	.43	.17							.28		T.	T.		.75		.08												2.13
McNeil	Ouachita																																
Malvern‖	do					.73	.55	T.						.18	.10				.68	T.	.68												2.92
Mammoth Spring	White				.03	.60	.60							.37			.10				.51												2.21
Marked Tree‖	St. Francis			.05	T.	.35	1.08							.35	.05				1.03		.55												3.46
Mena	Ouachita	T.		.05	.15	.50	.15							.21				T.	.40														1.46
Mooreville	White				.39	.30												T.	1.20										T.				1.89
Mount Nebo	Arkansas				.14	.80												2.01		.10													3.05
Newport (1)‖	White	.05		.02	.62	.50	.42							.06	.02				.12														1.21
Ozark	Arkansas			.05	.20	*	.30						T.	.60		.04			.53		T.												1.72
Pine Bluff‖	do				.06	.22	.60								.18				.44		.92	.04											2.48
Pocahontas	White			.04	T.	.43	.35							.41			.11		.90		.18												2.42
Pond	Arkansas			T.	T.	.52	T.	T.					.56				T.	.02															1.10
Portland‖	Ouachita					1.05	2.02	.05							T.				.24	.12	1.95	.09							T.				5.52
Prescott‖	do				.11	.42	.67							.20				.05	.36		.85	T.											2.66
Rogers	Arkansas			T.	.50	T.	T.					T.		.06		T.			1.08														1.64
Spielerville	do				.52	.15												T.	.73														1.40
Springbank‖	Red				.08	.37	.90	T.						.19	.13			T.	.19		.50								.13				2.49
Stuttgart	Arkansas				.22	.20	.65	.36						.32				.60			.80												3.15
Texarkana‖	Red																																
Warren‖	Ouachita						1.50								.14				.50		1.71												3.85
Whitecliffs‖	Red	.25			.05	.25	.42							.30				T.	.25		.40												1.92
Wiggs	Ouachita					.40	.35							.34		T.		T.	.84		.26												2.19
Wynne‖	St. Francis					.35	.64	.08			.45			.13	.17				.72		.73	.05											3.27
Mississippi																																	
Anguilla	Yazoo				T.	.84	1.85							.05					.25		2.00								.03				5.02
Austin	do			T.	T.	1.93	.40								1.64			1.16				.66											5.79
Batesville‖	do					1.00	2.00	.15											1.00		1.30												5.45
Byhalia	do					2.02	1.25							.29					1.07		.38												5.11
Canton	Big Black				T.	.31	1.39							T.	.05				.15		.62								.02				2.54
Clarksdale‖	Yazoo																																
Coffeeville	do																																
Corinth‖	Mississippi		T.		T.	.48	2.10	.04							.26				.52	.32		.50			T.								4.22
Crenshaw	Yazoo				T.	2.17	1.34							.31		T.			.87		.75		.01										5.45
Denmark	do					.82	1.42							.25	.40				.90		.95												4.74
Duck Hill	do					.70	2.04						T.						.65		2.84												6.23
Edwards	Big Black				.03	.57	2.12								.05				.25		.78								.10				3.90
Enid	Yazoo					1.65	1.30	.10						.08					.65		1.27												5.05
Fayette	Mississippi					T.	2.60												T.		2.13												4.73
Greenville‖	Yazoo					1.08	2.90	.14							.08				.15	.17	1.45	.55											6.58
Greenwood‖	do					.22	2.34	.06							.04				.20	.23	.61	1.93											5.63
Grenada	do		T.			.92	.31			T.					T.				.38		1.70		T.				T.					T.	3.31
Hernando‖	do				T.	*	2.40	.15							.45				1.10		*	.50											4.60
Hickory Flat	do					1.20	1.15							.25					.90		.72												4.22
Holly Springs‖	do				.04	.71	2.66	.08							.37				.77	.16	.20	.15											5.14
Kosciusko‖	Big Black					.44	2.00	.10							.07	.01			.01	.30	1.10								.08				4.11
Lake Coromrant	Yazoo				.03	1.85	1.23							.30					1.11		.40												4.92
Lula	do					1.95	1.00							.44					.87		.84												5.10
Malone	do					2.00	.10							2.00				.90			.75												5.75
Marks	do																																
Natchez‖	Mississippi					.07	2.82	T.							T.			T,	.08		1.75								.12				4.85
New Albany	Yazoo			T.		.80	1.81							.43					.93		.63												4.60
Pontotoc	do					1.40	1.55							.18					1.05		1.04												5.22
Port Gibson‖	Mississippi				T.	.22	2.53								.10				T.	.10		1.41								.05				4.41
Ripley	Yazoo																																
Rosedale‖	do																																
Senatobia	do			T.	T.	1.98	1.45						.38						.92		.32												5.05
Shoccoe	Big Black				T.	.72	1.55							T.	.10				.18		.77								T.				3.32
Suffolk	Mississippi				.41	1.23	.68												.04		1.25							.15					3.76
Swan Lake‖	Yazoo					.80	2.00	T.											.80	.30	1.22												5.12
Tchula	do				T.	.80	2.00							T.					.70		2.25								T.				5.75
University	do																																
Utica	Mississippi				.42	.40	.84							.02					.13		1.27								.12				3.20
Vicksburg	do		T.		.24	1.93	.59							.01					.12		.86							.08	.02				3.85
Water Valley	Yazoo			T.	.15	1.20	1.20							.55		T.			.85		1.15												5.10
Woodville	Mississippi				.25	.50	1.91												.20		1.34								.39				4.79
Yazoo City‖	Yazoo					1.48	2.70							.04				T.	.06	.12	.18	.96											5.54
Louisiana.																																	
Abbeville	Coast				.13	.10	.80								.10				.21		.70							.15					2.19
Alexandria‖	Red				T.	1.00	1.70	.10							T.						T.	1.21											4.01
Amite‖	Coast					1.32	1.31								T.			T.			.90								.44				3.97
Baton Rouge‖	do					.57	.95								T.					.29		.93						.05	.10				2.89
Burnside	do				.90	.33													.12		1.62							.08	.07				3.14
Burrwood	do					.27	.87														.56								.24				1.94
Calhoun	Ouachita					2.55	.84							.07					.17		1.66								.08				5.37
Cameron	Coast																																
Chenevville	Red						2.50																										2.50
Clinton‖	Coast		T.			.74	.95	T.							T.				.10		.70								1.38				3.87
Collinston‖	Ouachita				2.00	2.25	.01											.65	a									.05					‖6.21
Covington‖	Coast					.21	.38	.27							T.				.11		.73							.08	.61				2.39
Dodson	Red					2.40	.54							.12							.60												3.66
Donaldsonville‖	Coast					1.10	.85	T.											.15		1.85							T.	T.				3.95
Farmerville‖	Ouachita					1.58	.15												.40	1.12	.24							.10					3.59
Ferriday	do				.14	2.00															.18												2.32
Franklin‖	Coast					.28	.72	.17											.12		1.30							T.	.32				2.91
Grand Cane‖	Red				.12	.07													.90														1.09
Grand Coteau	Coast				T.	2.00	.02							.15					.18		1.25							T.	.08				3.68
Hammond	do					T.	.77												.15		.93								.10				1.95

a signifies ‖1.35.

TABLE 2.—*Daily precipitation for January, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Louisiana—Cont'd.																																	
Houma	Coast																																
Jennings	do				T.	.18	2.23								.12					.08		1.25						.10				3.96
Lafayette	do		.02	.02		1.45									.04					.18		1.33		.02				.03	.04			3.13
Lake Charles	do					.39	3.29								.09							1.61										5.38
Lakeside	do						1.90							.04							.90											2.84
Lawrence	do					.26		.31														1.02							.45			2.04
Liberty Hill	Red				.63	1.39	.13							.25					.20		1.28							.10				3.96
Logansport	Sabine				T.	T.	.29	T.	1.00	.13						.52			.10		.57	T.										2.61
Melville	Red					.16	2.70	.05												T.		.72							.42			4.06
Minden	do				.28	.20	1.10	.03							.37				.17		.75	.08							.10			3.08
Monroe	Ouachita			T.	T.	.05	1.40	1.00	T.						.02				.20	.09	.68	.54							.08			4.06
Morgan City	Coast					.39	*	.29													1.59								1.00			3.27
Newellton	Mississippi				.15	.25	2.00							T.					.35		.90								.20			3.85
New Iberia	Coast				T.	T.	1.10								.10				.20		1.10							.23				2.73
New Orleans (1)	do				.10	.13	.78								T.				T.		.93			.02				.23	.49			2.68
New Orleans (2)	do					.15	1.18														1.01								.49			2.83
New Orleans (3)	do				.04	.06	.69														.90							.16	.16			2.01
New Orleans (4)	do				.08	.03	1.12														.92							.22	.23			2.60
New Orleans (5)	do				.08	.02	.74														1.08							.10	.08			2.10
New Orleans (6)	do				.11	.15	.89														1.01			.01				.25	.43			2.85
New Orleans (7)	do				.06	.09	.83	.01													1.02	.01		.02				.28	.71			3.10
New Orleans (8)	do				.07	.08	.71														1.03			.02	.01			.35	.25			2.52
Opelousas	do					T.	2.05							.10						.15	T.	.52						T.	.55	T.			3.37
Plain Dealing	Red				.26	.80	.17							.32					.09													1.64
Rayne	Coast					.10	2.25	.10						T.	.24						1.35						T.	T.					4.04
Reserve	do																																
Robeline	Red					2.32	.18																										2.50
Ruston	Ouachita					1.50	.50							1.00					.50		1.50												5.00
St. Francisville	Mississippi				.52	1.80														.15								.35				2.82
Schriever	Coast					.55																.54			.10				2.06			3.25
Shreveport	Red			.05	.13	.70	.04							.36				T.	.12	.01	1.18							.03	.05			2.46
Simmesport	do					.07	2.11	.05							.04					.03		1.61							.50			4.31
Southern Univ. Farm	Coast						.15												T.		1.20			.02				.94				2.81
Sugartown	Red					.82															1.99											2.17
Tallulah	Mississippi				2.57														.14		1.08											3.79

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 7, Lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.										Oklahoma			
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.‡‡		Dodge City.		Elliswood.		Iola.		Liberal.		Wichita.		Ardmore.‡‡		Bartlesville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Mid.	Max.	Min.	Max.	Min.	Max.	Min.
1	72	39	39	30	65	29	68	34	62	38	76	46	75	46	56	22	45	31	57	27	74	37	53	23	78	46	72	40
2	43	17	28	12	29	22	63	39	55	33	52	20	74	58	22	15	32	13	27	19	42	15	23	15	60	36	40	23
3	19	13	20	7	26	6	56	19	48	22	20	17	40	27	17	12	16	12	24	17	18	13	19	12	31	26	26	20
4	16	7	10	−10	15	− 5	35	15	23	− 6	40	17	42	32	15	− 1	15	5	30	11	23	10	23	5	33	24	33	31
5	20	− 5	2	−21	14	− 3	30	17	12	− 4	21	9	32	30	20	− 5	20	− 8	15	0	20	− 4	19	1	23	22	31	8
6	22	− 4	4	−27	22	− 8	28	8	10	− 7	30	10	32	17	22	− 7	21	− 8	17	− 3	22	− 2	21	− 1	32	16	20	7
7	25	− 4	19	−11	27	3	48	12	39	−10	42	10	40	12	21	− 2	31	1	32	5	29	− 1	34	10	44	16	40	13
8	38	0	14	−10	40	9	45	24	36	10	46	24	48	12	34	13	32	10	36	18	35	8	35	21	46	26	44	25
9	30	4	35	1	32	6	52	21	38	6	50	23	52	23	37	9	39	5	38	11	43	13	38	17	52	23	42	19
10	40	12	35	13	37	12	55	17	43	10	57	25	55	24	44	27	44	30	41	30	51	31	44	32	52	27	49	26
11	36	13	31	10	39	15	51	28	45	21	51	34	63	28	35	19	35	24	44	33	39	23	44	36	55	43	50	38
12	42	24	24	6	44	29	50	39	47	32	52	29	65	34	42	27	37	29	47	32	43	30	48	27	39	42	52	46
13	38	16	35	− 4	41	16	44	25	36	19	42	25	49	42	31	21	30	22	33	26	47	23	31	25	47	34	46	28
14	46	15	37	5	34	20	46	26	40	20	44	25	46	29	30	18	29	15	29	24	36	21	30	20	43	28	34	28
15	38	24	37	10	47	26	62	32	42	30	64	35	44	29	39	26	35	25	36	28	52	29	37	27	47	35	50	25
16	58	20	38	15	57	30	64	36	55	34	66	42	61	34	44	33	38	33	45	35	52	26	46	34	56	36	53	46
17	42	28	15	1	42	28	58	44	46	34	63	29	69	42	42	29	36	27	38	29	55	32	50	29	66	45	64	50
18	52	14	24	−11	59	30	58	21	50	16	59	23	56	37	50	26	47	25	49	27	54	24	50	29	56	35	58	28
19	49	17	36	10	57	27	61	25	52	20	59	26	56	30	48	31	50	30	54	31	54	26	51	32	55	29	65	29
20	40	20	30	0	40	26	50	25	46	24	43	25	57	30	40	27	41	31	43	29	42	23	41	32	53	34	49	34
21	55	12	36	6	61	18	60	19	59	12	56	20	50	29	46	20	45	20	40	22	52	18	44	23	52	27	46	24
22	66	26	41	15	67	36	66	38	64	40	66	34	61	29	59	27	45	25	48	21	62	26	43	25	60	31	53	23
23	60	25	47	18	53	32	62	34	56	23	61	37	73	31	60	33	55	33	54	31	63	32	57	34	67	36	64	36
24	76	31	43	28	68	32	75	35	67	23	74	37	69	35	59	35	50	31	54	27	68	34	55	32	67	37	64	31
25	72	26	38	6	59	33	68	45	56	29	74	42	71	38	71	33	67	33	69	41	76	36	66	43	77	44	76	44
26	62	22	31	− 4	50	32	58	27	52	27	58	30	67	42	49	32	61	36	55	31	65	28	51	39	62	42	60	43
27	48	20	16	−10	42	25	54	29	41	22	44	24	65	37	44	29	46	27	46	26	64	34	45	31	60	31	49	27
28	58	20	35	− 4	58	24	60	22	55	10	57	20	57	32	50	23	49	27	49	23	55	20	49	29	58	23	55	28
29	40	17	28	6	42	25	49	32	46	22	47	26	69	32	42	24	41	25	31	20	48	23	40	22	70	27	45	22
30	60	14	32	2	57	22	66	19	55	15	61	21	53	28	54	21	49	20	37	16	59	20	44	22	55	24	44	21
31	64	19	47	8	59	28	68	32	56	24	66	35	.....	28	65	28	60	25	51	30	65	22	58	27	70	29	63	22
Mns	46.0	16.2	28.9	3.1	44.6	19.9	55.2	27.1	46.2	19.1	52.9	26.5	56.4*	31.8	41.5	20.7	40.0	21.1	41.6	22.8	48.6	21.6	41.6	24.3	54.4	31.6	49.6	28.5

Date.	Oklahoma.														Missouri.													
	Enid.‡‡		McAlister.		Mangum.‡‡		Muskogee.		Oklahoma.		Westherford.‡‡		Woodward.		Caruthersville.		Ironton.‡‡		Lamar.‡‡		Olden.		Springfield.		Lynnville, Ky.		Jackson, Tenn.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	75	26	76	51	44	44	73	41	74	38	86	51	83	38	68	43	68	37	64	36	70	40	66	36	62	42	66	45
2	46	18	71	33	31	20	61	30	38	24	28	24	59	23	60	42	34	33	27	23	65	37	36	27	60	44	66	57
3	25	18	42	25	26	19	32	24	24	19	27	19	24	17	44	28	28	26	26	2	47	25	27	20	56	27	65	34
4	27	18	27	29	30	19	33	27	30	22	25	19	28	16	38	27	34	20	33	20	29	21	32	22	45	27	55	31
5	20	8	33	18	45	16	33	15	22	11	22	11	21	4	58	28	28	26	15	8	32	18	31	6	60	24	63	37
6	28	5	30	15	40	12	28	14	26	13	31	11	27	0	28	14	20	6	18	7	19	5	13	5	28	13	38	15
7	40	7	43	17	45	13	37	14	40	18	49	11	37	2	30	− 4	34	10	35	7	32	9	33	11	23	−12	29	3
8	46	14	48	29	46	16	44	25	37	25	14	21	40	12	40	5	40	17	39	12	38	14	36	21	36	6	41	5
9	48	17	55	22	45	22	50	22	46	24	40	19	44	10	38	5	40	15	41	16	42	17	39	20	34	5	40	12
10	47	18	54	30	55	22	50	27	47	31	49	18	49	33	42	15	41	16	49	19	40	19	44	26	28	5	46	10
11	51	27	59	43	54	29	52	33	52	43	54	24	49	36	51	12	43	26	49	21	44	23	43	34	46	10	54	20
12	56	47	60	50	58	43	53	43	54	34	52	44	52	34	53	33	53	35	50	39	56	35	50	41	50	30	58	30
13	48	28	60	32	49	29	54	31	40	29	57	28	39	21	53	40	47	40	32	29	50	20	49	25	49	41	58	50
14	34	25	43	36	37	25	39	32	34	27	45	30	32	21	42	30	33	29	32	27	42	18	27	25	43	31	53	34
15	51	25	43	34	48	26	39	30	41	33	48	34	49	30	34	30	30	27	37	27	38	18	32	27	34	29	35	31
16	57	35	54	40	58	35	53	37	59	40	54	46	54	42	37	30	38	28	55	31	30	20	39	30	35	28	41	30
17	60	46	65	54	62	44	64	49	57	34	52	48	66	34	58	36	58	30	63	36	58	24	62	31	57	33	62	41
18	55	28	66	34	54	26	63	30	53	31	60	28	57	26	59	36	52	32	49	28	58	19	45	28	58	39	62	42
19	55	28	58	35	55	24	59	32	53	34	55	32	53	31	64	28	62	31	54	28	60	22	57	34	56	31	62	28
20	48	30	54	40	50	26	50	24	47	31	50	40	46	29	50	39	61	40	57	27	51	29	45	28	44	39	59	41
21	50	26	50	26	55	21	58	29	47	25	55	25	55	30	44	27	35	25	40	23	40	25	37	23	44	27	45	30
22	53	26	61	39	65	22	60	30	52	28	64	26	65	23	47	20	45	16	50	20	46	6	46	19	37	20	44	24
23	68	28	70	39	69	34	61	32	62	40	69	46	66	31	61	34	55	29	55	22	56	34	51	34	52	30	54	32
24	63	31	71	35	82	31	63	32	69	37	67	36	62	31	55	28	50	21	56	26	54	26	52	31	48	26	53	30
25	65	33	71	52	68	33	71	38	75	47	78	52	82	42	62	30	57	25	72	27	64	32	71	38	56	28	60	29
26	58	40	70	45	58	32	72	40	56	40	51	36	70	35	68	30	55	47	57	40	61	45	63	37	63	50	71	52
27	53	31	61	33	52	23	55	30	52	32	58	24	49	26	60	31	50	31	44	25	53	26	43	30	58	32	67	31
28	56	28	57	29	58	22	55	36	56	29	61	33	56	23	52	30	48	26	50	24	48	24	44	24	47	31	60	35
29	54	25	67	28	52	23	57	24	54	28	55	26	48	24	56	28	39	28	37	22	45	25	37	25	51	24	54	26
30	56	25	65	25	56	19	58	26	51	23	58	29	60	20	46	31	33	24	35	18	40	22	31	18	44	30	54	35
31	62	20	69	33	64	22	64	27	68	32	53	34	70	23	46	18	41	14	53	18	47	18	49	26	39	18	.....	20
Mns	50.2	25.3	56.9	33.9	51.9	25.5	52.9	29.8	48.9	29.7	51.5	29.8	51.4	24.4	49.8	26.7	43.6	26.1	45.0	23.5	46.9	23.1	42.9	25.9	46.5	26.1	53.8*	30.3

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 7*—Continued.

Date.	Tennessee.				Arkansas.																Mississippi.					
	Memphis.		Union City.		Bentonville.		Corning.		Dardanelle. ‡‡		Eldorado. ‡‡		Fort Smith.		Little Rock.		Pine Bluff. ‡‡		Texarkana. ‡‡		Wynne. ‡‡		Clarksdale. ‡‡		Corinth. ‡‡		Greenville. ‡‡	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	69	54	64	43	70	47	72	41	76	24	77	38	76	43	75	56	74	54	.....	.....	73	43	.....	.....	64	29	75	37
2...	66	61	64	41	50	28	66	41	72	30	71	61	63	41	69	62	74	61	.....	.....	67	58	.....	.....	69	54	74	58
3...	64	31	44	29	28	24	43	30	46	40	65	59	41	33	63	31	64	60	.....	.....	43	42	.....	.....	62	58	70	57
4...	62	31	39	28	33	26	33	27	42	30	62	37	36	29	47	31	62	31	.....	.....	61	30	.....	.....	64	33	63	37
5...	61	26	60	28	31	9	36	29	30	30	42	37	35	19	39	22	40	38	.....	.....	38	31	.....	.....	52	36	46	41
6..	26	15	39	14	18	8	30	14	30	13	37	23	26	15	24	14	24	16	.....	.....	21	17	.....	.....	24	23	27	25
7...	28	12	27	−12	37	7	32	3	40	1	41	15	40	12	37	10	44	3	.....	.....	29	− 7	.....	.....	30	10	37	16
8...	38	20	37	− 7	40	23	40	9	44	14	52	16	45	23	45	23	44	13	.....	.....	38	− 6	.....	.....	41	10	47	19
9...	40	21	38	0	47	19	41	13	54	19	53	26	49	25	45	27	58	24	.....	.....	42	10	.....	.....	44	16	51	21
10...	41	22	37	4	46	29	44	18	45	20	55	30	45	29	44	27	43	24	.....	.....	43	11	.....	.....	50	21	52	24
11...	51	32	47	5	47	40	52	18	56	26	65	26	55	34	53	30	60	28	.....	.....	50	20	.....	.....	55	21	63	26
12...	58	42	49	30	53	44	57	35	65	26	67	28	55	43	59	40	66	32	.....	.....	55	34	.....	.....	57	29	68	27
13...	56	34	50	41	53	28	54	40	46	36	60	45	53	33	58	36	62	52	.....	.....	56	39	.....	.....	56	38	60	40
14...	35	32	44	32	30	27	40	33	43	30	49	30	38	31	38	32	40	30	.....	.....	36	33	.....	.....	37	34	39	32
15...	37	31	34	31	37	28	36	21	38	33	44	30	38	33	38	32	44	31	.....	.....	40	27	.....	.....	36	31	44	30
16...	49	35	36	29	50	36	38	32	53	34	51	32	47	36	48	35	54	35	.....	.....	60	29	.....	.....	52	31	53	32
17...	64	49	59	31	63	33	59	37	64	35	68	41	66	45	64	48	66	44	.....	.....	63	38	.....	.....	62	34	65	47
18...	64	40	59	40	50	28	60	38	54	38	53	47	53	36	63	41	57	42	.....	.....	52	40	.....	.....	52	51	53	50
19...	56	39	59	34	57	34	59	33	63	27	60	28	57	31	59	33	62	30	.....	.....	58	31	.....	.....	58	30	61	29
20...	49	39	54	41	48	31	55	43	58	38	57	28	52	38	55	41	58	42	.....	.....	51	41	.....	.....	46	32	51	29
21...	40	32	46	29	39	22	47	29	46	32	49	33	45	29	45	34	53	31	.....	.....	42	30	.....	.....	40	32	48	35
22...	43	27	42	21	53	22	45	23	62	26	58	27	54	26	54	31	60	25	.....	.....	47	24	.....	.....	44	24	53	27
23...	59	40	55	33	58	36	59	37	66	26	70	28	65	34	65	40	70	37	.....	.....	60	29	.....	.....	60	24	66	29
24...	52	36	50	27	60	30	56	28	61	30	67	36	61	36	56	41	62	36	.....	.....	53	31	.....	.....	55	31	64	35
25...	62	37	56	30	69	42	62	32	67	31	71	40	73	42	70	44	70	37	.....	.....	64	35	.....	.....	60	31	69	36
26...	64	52	64	50	58	39	58	55	67	36	70	41	65	43	63	51	67	58	.....	.....	65	38	.....	.....	70	33	73	39
27...	54	41	55	34	49	26	58	32	58	33	62	35	55	34	55	43	73	32	.....	.....	55	29	.....	.....	62	36	64	38
28...	46	36	49	31	48	25	50	30	55	33	54	35	51	31	50	36	60	36	.....	.....	48	30	.....	.....	48	36	54	40
29...	51	35	52	28	45	22	51	31	55	30	65	34	54	30	56	35	63	32	.....	.....	51	31	.....	.....	55	31	60	36
30...	48	35	51	34	36	20	46	31	42	28	55	36	42	29	50	34	53	31	.....	.....	44	32	.....	.....	48	32	56	36
31...	46	31	42	34	57	25	47	21	58	24	64	26	61	27	57	30	64	24	.....	.....	50	23	.....	.....	48	24	63	28
Mns	50.9	34.5	48.5	26.9	47.1	27.7	49.2	29.5	53.4	28.2	58.5	33.8	51.5	31.9	53.0	35.2	57.8	34.5	.....	.....	50.2	28.8	.....	.....	51.6	30.8	57.1	33.9

Date.	Mississippi.						Louisiana.																			
	Kosciusko. ‡‡		Natchez. ‡‡		Vicksburg.		Alexandria. ‡‡		Baton Rouge. ‡‡		Covington. ‡‡		Lafayette. ‡‡		Lake Charles. ‡‡		Monroe. ‡‡		New Orleans.		Robeline. ‡‡		Schriever. ‡‡		Shreveport.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	68	32	74	41	71	59	74	36	65	49	69	29	73	46	71	45	75	40	70	56	70	43	.....	.....	73	68
2.....	72	56	76	56	72	58	76	54	72	54	75	47	75	52	76	50	74	59	74	54	71	45	.....	.....	73	62
3.....	71	60	74	57	72	53	70	53	73	56	70	48	76	53	75	49	76	44	74	56	72	47	.....	.....	67	50
4.....	66	42	68	53	69	45	72	56	70	62	71	51	73	58	76	49	63	45	74	55	71	55	.....	.....	66	42
5.....	63	42	63	53	62	36	54	53	73	61	73	56	76	62	72	49	64	45	76	63	51	49	.....	.....	49	30
6.....	38	30	33	31	37	24	36	31	38	38	71	44	37	35	67	31	41	28	69	32	35	25	.....	.....	31	21
7.....	34	16	41	21	30	21	44	18	44	24	61	24	43	21	61	20	44	20	40	27	46	15	.....	.....	42	30
8.....	45	17	58	21	49	25	53	18	56	27	60	21	56	22	55	22	55	21	52	31	55	16	.....	.....	55	26
9.....	49	18	54	24	53	33	57	23	58	33	60	21	58	30	62	29	58	25	55	41	55	19	.....	.....	54	32
10.....	51	27	60	31	55	33	60	31	59	34	61	29	59	22	61	30	59	29	52	36	59	21	.....	.....	54	32
11.....	58	29	60	31	64	37	67	27	67	36	61	29	70	35	70	31	67	29	58	40	68	22	.....	.....	61	33
12.....	67	31	73	35	69	46	73	29	70	49	70	32	72	38	75	37	71	29	65	48	79	24	.....	.....	67	46
13.....	69	37	74	49	68	48	75	48	74	54	73	34	74	51	74	50	62	37	74	55	49	45	.....	.....	61	41
14.....	39	31	50	37	48	35	52	36	54	47	61	51	57	43	72	40	52	32	61	39	50	33	.....	.....	46	32
15.....	44	29	50	29	48	32	51	30	57	31	61	21	55	32	65	31	48	29	50	35	49	30	.....	.....	46	34
16.....	54	30	67	31	59	38	65	22	64	39	66	31	67	33	74	32	59	29	60	41	61	33	.....	.....	55	42
17.....	58	37	73	41	71	49	74	40	72	49	71	34	73	43	74	43	71	42	72	48	53	43	.....	.....	71	49
18.....	60	46	63	52	64	38	60	48	68	57	73	46	68	53	64	46	56	48	74	51	59	37	.....	.....	66	43
19.....	58	28	65	33	60	36	62	30	60	38	64	35	64	37	66	36	63	31	57	42	63	28	.....	.....	57	36
20.....	44	27	57	37	55	43	59	30	62	52	61	38	63	38	64	36	59	31	70	50	59	27	.....	.....	58	43
21.....	43	33	50	36	47	36	52	33	50	39	54	39	52	26	58	31	54	35	52	42	55	35	.....	.....	48	34
22.....	50	27	59	29	53	32	61	27	58	32	57	29	60	28	63	30	62	30	57	37	65	25	.....	.....	62	34
23.....	63	31	70	29	66	46	69	27	67	46	69	29	73	32	72	31	70	30	68	46	72	27	.....	.....	70	44
24.....	62	29	68	44	67	44	71	36	69	47	71	39	73	40	76	34	74	36	67	52	72	35	.....	.....	67	45
25.....	65	31	73	44	69	44	74	36	72	43	69	34	70	39	74	40	71	37	70	48	73	31	.....	.....	70	45
26.....	70	32	77	48	72	54	75	41	70	56	74	34	74	43	78	40	80	38	74	53	70	55	.....	.....	68	52
27.....	66	38	72	50	66	48	70	45	72	50	72	48	74	55	76	50	70	42	74	59	70	45	.....	.....	64	44
28.....	52	37	56	40	52	40	56	40	54	44	59	46	56	43	69	40	59	38	62	45	55	38	.....	.....	53	38
29.....	56	29	69	37	61	39	69	33	67	37	69	31	68	36	68	37	68	39	67	43	70	32	.....	.....	67	38
30.....	57	36	64	37	60	45	63	32	68	45	71	31	68	47	71	36	64	38	70	49	61	31	.....	.....	53	36
31.....	58	28	67	33	60	37	65	30	67	40	66	33	65	36	71	35	66	31	63	46	67	25	.....	.....	65	35
Means.....	56.5	32.8	63.5	38.4	59.9	40.5	63.2	35.6	63.5	44.5	67.1	36.3	65.2	40.0	69.3	37.4	63.1	35.1	64.5	45.8	61.6	33.4	.....	.....	59.5	39.4

Climatological Data for January, 1910.

DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The month was marked by much drier and generally warmer weather than usual, with a large number of pleasant days. A noteworthy feature of the month was the severe cold wave that began to overspread the district on the 3d and attained its greatest severity on the 6th and 7th. It was accompanied by general precipitation, with sleet as far southward as the Gulf coast, and during its prevalence freezing temperatures were recorded throughout the district, and temperatures much below zero in Colorado and New Mexico.

While the precipitation averaged considerably less than the normal, there was a slight excess in the upper Rio Grande Valley and a large excess in a few widely separated localities in southern Texas. Most of the precipitation over the upper portions of the Rio Grande and Rio Pecos watersheds was in the form of snow, but the amounts were much less than during December. The weather conditions were favorable to the settling and some melting of the snow in the mountains, and much of the old snow became solidly frozen. The greatest snowfall in Colorado was 47.2 inches at Platoro; in New Mexico, 36.0 inches at Red River Canyon; and in Texas, 7.0 inches at Grapevine. There was no excessive precipitation of 2.50 inches or more in 24 consecutive hours at any of the reporting stations, the heaviest in that time being 2.48 inches at Anahuac, Tex. At 2 stations in Colorado, 13 in New Mexico, and 12 in Texas there was either no precipitation or the amounts were too small to be measured. The number of rainy days with .01 inch or more precipitation averaged about 4 in Colorado, and 3 in New Mexico and Texas, practically all occurring during the first two decades. The number of clear days was large and averaged 18 for the district.

TEMPERATURE.

The temperature was above the normal in nearly all portions of the district, the excess in general being much greater in Texas than in New Mexico or Colorado. Although the month opened with comparatively warm weather, the temperature during the first decade averaged decidedly below the normal. It was exceptionally cold from the 4th to the 9th, the severest weather of the month occurring from the 5th to the 7th. The lowest temperatures recorded at the various reporting stations ranged in Texas from 30° on the immediate coast to 5° at Knickerbocker; in New Mexico, from 14° at Rincon and Artesia to −30° at Red River Canyon; and in Colorado, from −12° at Saguache to −40° at Wagon Wheel Gap. These low temperatures broke all previous January records in New Mexico and have been exceeded only twice in previous corresponding months in Colorado.

During the second and third decades generally mild temperatures prevailed. The warmest weather occurred in most localities from the 23d to the 26th, although in some sections the 1st was the warmest day. The highest temperatures reported were: In Colorado, 55° on the 24th at Saguache and on the 25th at Wagon Wheel Gap; in New Mexico, 86° on the 1st at Carlsbad; and in Texas, 89° on the 1st at Barstow, Graham, and Llano, on the 23d at Coleman, and on the 24th at Fort McIntosh. The local monthly means ranged from 11.8° to 25.6° in Colorado; from 18.2° to 46.4° in New Mexico; and from 41.6° to 63.2° in Texas.

PRECIPITATION.

The precipitation over the Rio Grande watershed averaged greater than the normal in its extreme upper portion, but south of Santa Fe there was a general deficiency, ranging from a minimum of 0.10 inch to a maximum of 1.65 inch. Snow occurred mostly in the mountains and upper valleys, the greatest monthly fall reported being 47.2 inches at Platoro, Colo., and 36.0 inches at Red River Canyon, N. Mex. Compared with the precipitation of the preceding month there was a decided decrease throughout the watershed, which averaged 0.50 inch or more over large areas.

In the Rio Pecos drainage basin the precipitation was also deficient and was only about one-third the amount received during December. The snowfall was moderate, the heaviest monthly amount being 17.2 inches, while the next heaviest did not exceed 8 inches. In both the Rio Pecos and Rio Grande valleys there was a large number of stations that had either no precipitation or amounts too small to be measured.

The precipitation over the watersheds of the Texas rivers and in the coastal plains was decidedly less than the normal, the deficiency averaging 1 inch or more in the San Antonio, Colorado, Brazos, Trinity, and Sabine valleys, and in the coastal plains, and somewhat less than that in the Nueces, Guadalupe, Lavaca, and Neches valleys. The following are the average monthly amounts for the various drainage basins: Nueces, 0.53; San Antonio, 1.12; Guadalupe, 1.28; Lavaca, 2.35; Colorado, 0.36; Brazos, 0.75; Trinity, 1.08; Neches, 1.91; Sabine, 2.03; and the coastal plains, 1.39 inch. At several widely separated stations in the Nueces, Guadalupe, Colorado, Brazos, and Trinity valleys there was either no precipitation or inappreciable amounts only. Compared with the precipitation of the preceding month there was a general and marked decrease, which ranged from a minimum of 0.50 inch for the coastal plains to a maximum of 4.78 inches for the Neches watershed.

RIVER CONDITIONS.

The rivers of the district were generally lower than during December and they maintained a rather even flow of water. The Rio Grande was abnormally low at Eagle Pass, Tex., during the entire month. At Zapata, Tex., a rise of about 2 feet occurred on the 15th from local rains, which brought the stream up to normal at that place. At Brownsville it was near the normal, and there was ample water for irrigation and other purposes. The Colorado averaged about 1 foot lower than in December, the Brazos about 3 feet, and the Trinity 2.5 feet, while there was no perceptible change in the Guadalupe, Neches, and Sabine.

The following has been taken from the Reclamation Record for February, 1910:

New Mexico, Carlsbad Project.—The amount of water stored in Lake McMillan has been slowly increasing. Little addition has been made to the amount of water stored in Avalon Reservoir because of the necessity of running water in the canal for the purpose of watering trees and winter oats.

New Mexico, Hondo Project.—A little water has been available for a few days during the month and was distributed through the canal system, none being stored.

New Mexico, Leasburg Project.—It is expected that a contract will soon be entered into with the Water Users' Association and that water can be delivered for irrigation about the 1st of February.

MISCELLANEOUS.

The severe weather during the first decade caused considerable damage to vegetation as far southward as the lower Rio Grande Valley. At San Juanito, in Hidalgo County, orange trees were badly frosted on the 7th.

The cattle on the ranges withstood the severe cold in good shape, according to press dispatches from Fort Worth, and, unless other cold spells should occur, the loss is estimated to be smaller than in many previous years. Farming operations have been delayed in many localities by the dry weather.

An irrigation canal on the west side of the Trinity River between Dayton and Sterling in Liberty County, Tex., is

under construction by the Moores Bluff Rice Company. The canal will be 7 or 8 miles long and will irrigate 4,500 acres this year. The machinery to be installed under the supervision of Schlafli and Porter Company will have a capacity of 36,000 gallons per minute and is so designed that the capacity may be doubled or tripled at any time, and the acreage increased accordingly.

The McFadden, Wiss and Kyle Land Company, of Beaumont, Tex., is making extensive improvements to the machinery of its rice canal which is located 6 miles south of Beaumont on the Neches. One new pumping unit, having a capacity of 50,000 gallons per minute, will be added, giving a total capacity of 190,000 gallons per minute, sufficient to irrigate 27,000 acres.

A bond issue of $193,000 was voted upon and carried by the citizens of Alvin, Tex., for the creation of the Alvin Drainage District.

The county commissioners of Harris County, Tex., acted favorably upon petitions for the creation of Drainage District No. 4, which will cover the southeastern portion of that county.

SNOWFALL IN THE MOUNTAINS.

The following reports of the snowfall in the mountain districts of the Rio Grande and Rio Pecos watersheds have been furnished by the section directors of the Colorado and New Mexico sections.

Report of Mr. F. H. Brandenburg, Section Director, Colorado Section:

The snowfall for January was much less than for the corresponding month a year ago. As compared with the normal, the deficiency, as a whole, was not so marked; in localities the deficiency was considerable, while in others there was a slight excess. The warm spell at the beginning of the month caused a general settling of the snow, and some melting. With the return to normal temperature conditions, much of the old snow was solidly frozen—a condition favorable to late melting. In localities exposed to the prevailing strong winds, the current fall was carried to the gulches and sheltered spots, forming numerous drifts. The depths will doubtless be materially increased by the later snowfalls, which, as a rule, furnish the water for the early part of the irrigation season; the present depths, however, have a bearing on the flow of midsummer, after the snows of spring have disappeared.

Report of Mr. C. E. Linney, Section Director, New Mexico Section:

The snowfall during January was light and generally confined to the mountain districts. General rains on the first few days of the month and on the 16th and 17th caused rapid melting and solidifying, and in most districts the remaining snow, which is still above the normal amount, was compact and crusted and almost solid ice. In the higher altitudes the snow in the canyons and on the north slopes was in deep drifts, varying in depth from 5 to 20 feet or more, and, with the exception of the lower Pecos Valley and the extreme southwest, the reports state that at the close of the month the prospects for a sufficient water supply for irrigation were very encouraging.

WORK UNDERTAKEN AT THE FREMONT FOREST EXPERIMENT STATION IN CLIMATOLOGY AND FORESTRY.

By L. H. DAINGERFIELD, Local Forecaster, Pueblo, Colo.

The more general relations of meteorology to forestry have long been known, but the more specific adaptations remain in the experimental stage. It is for the careful study of the special relations as well as the general that the meteorological equipment of the Fremont Experiment Station is being used. This station is situated on Rock Creek, about one mile from the mountain terminal of the Mount Manitou Incline Railway, Manitou, Colo., and is reached after leaving the railway terminal by following the windings of a picturesque burro trail. The main building, office, and laboratory are situated on the eastern end of Muskoko ridge, occupying the floor of the beautiful valley, 8,850 feet (approximately) above the sea. On each side of the valley the mountains rise 1,000 or 1,500 feet laden with yellow pine, Engelmann spruce, Douglas fir, aspen, etc. Eighty acres of this valley land and the mountain slopes are reserved for experiment purposes.

The instrumental equipment of the station is placed on 3 solid wooden towers, known as stations Nos. 1, 2, and 3. These towers are 16 feet in height from their several platform centers to the ground; the platforms are 5 feet square bounded by railings about 2½ feet in height. Station No. 1 is located on Muskoko ridge about 150 feet west of the office quarters and carries an instrument shelter on the southwest corner of the platform railing, in which maximum and minimum thermometers and a sling psychrometer are placed. A combined wind vane and anemometer stand extends up through the northwest corner of the platform. The base of the stand is securely bolted to a large cedar post about 3 feet in height, and the combined rain and snow gage occupies its iron tripod which is securely fastened to the northeast corner of the platform railing. The average height of the instruments above the ground is about 20 feet. The tipping bucket rain gage is about 30 feet west of Station No. 1. A sunshine recorder is operating on top of the Station No. 1 instrument shelter. The anemometer, wind vane, sunshine recorder, and tipping bucket rain gage are all connected with the triple register operating in the station quarters.

Station No. 2 is situated on a south slope of 15° to 20°, about 600 feet northwest of the station quarters, in an open stand of yellow pine trees. It carries an instrument shelter (containing maximum and minimum thermometers and a sling psychrometer), an anemometer on a wooden support without wire connections, and an ordinary rain and snow gage, similarly located as on tower of Station No. 1.

Station No. 3 is situated on a north slope of 25° to 30°, about 700 feet to the west of the station quarters, in a rather close stand of Engelmann spruce. Its equipment is the same as that of Station No. 2, with similar exposure of the instruments.

Observations of all instruments at all three stations are made at 7:00 a. m., anemometer dials read, and maximum and minimum thermometers set daily. Observations of maximum and minimum thermometers and dry and wet thermometers are also made at Station No. 1 at 1:00 and 7:00 p. m., daily. Observations are also taken at other hours when peculiar or unusual conditions exist.

A full record of the sunshine is impossible on account of the horizon line being broken by mountains, except a short space in the east; during the midwinter months the forenoon sunshine record may be complete.

In addition to the present Weather Bureau equipment at the experiment station, soil thermometers are to be installed in iron tubes sunk from 1 to 2 feet deep at each station. The bulbs of the several thermometers will be inserted in corks slightly smaller than the tubes. This will prevent too rapid a change in temperature when the thermometers are removed from the iron tubes to be read, and, at the same time, will not interfere with the action of the slow-changing soil temperature on the thermometers. The soil thermometers at depths of 1 to 2 feet are expected to measure the true temperature of the soil zone where most of the tree roots are found. As the research work of the station is principally concerned with those factors which affect forest trees, all instruments for measuring atmospheric factors are exposed on towers about 20 feet above ground, where they will feel the average temperature, wind, etc., in the same atmospheric level as the tree crowns.

Snow scales are to be installed at all three stations to supplement the ordinary rain and snow gage readings. The average depth of the snow and the water coefficient will be determined; and the melting, settling, and evaporation of the snow will also be considered.

The exposure of the instrumental equipment in three distinctly different locations is rendered necessary in the study of three distinct forest types prevailing around Fremont station. The study is expected to explain, at least partly, the climatic requirements of the several tree species of this part of the Rocky

Mountains; to determine the character of climate which fixes the differing types; to show the conditions which affect the health of trees, which in their worst forms cause winter killing; to obtain a record of the climatic factors which influence experiments on different types at the station, such as selective experiments with the introduction of exotics, the activity of insect pests, etc. A knowledge of the situation and species aids in determining permanent types, extending the range of native species, and in introducing new trees in an intelligent manner. It is known that yellow pines are tolerant to warmth and dryness (relatively speaking), hence are found in this latitude at altitudes of from 6,000 to 9,000 feet; Engelmann spruce is tolerant to a wet, cold climate, and is therefore found in the high levels of from 9,000 to 11,500 feet; Douglas fir is medium in its habits and is found at altitudes ranging from 8,000 to 10,000 feet. Systematic study may extend this list indefinitely.

One of the general objects of the study at Fremont station with its meteorological instruments in diverse exposures is to compare the several climatic factors on opposing slopes to determine their effect on the character of stand of forest trees and their rate of growth. It is known that, in general, the north slopes, in this region, are moister than the southern, and, although colder than the opposite slopes, bear excellent forests, while the southern slope forests are inclined to be somewhat inferior.

With the introduction of the meteorological equipment at Fremont station a study of the climatological œcological factors may well receive special attention. A study of the water supply is essential, but observations of the seasonal fall, the character of that fall as to rain or snow, and sudden deluges interspersed with droughts, or more even distribution, are more essential. To notice the mean annual temperature is of importance, but observations of the mean seasonal or monthly temperature and the extremes are more important. Likewise consideration of the average wind movement for hours, days, months, and years is necessary, but the consideration of the seasonal distribution of the low and high wind movements and the frequency of destructive gales is more necessary. Observation of the sunshine factor is useful, but its observation during the months of growth is more useful, and the same is true of vapor deficit as affecting transpiration and evaporation. In this connection, it is worth while noting that a study of the several œcological factors can not be successfully accomplished without combining the study of the several factors.

Very little has been accomplished in the study of meteorology by direct observation at Fremont station, owing to the fact that the equipment has been but recently installed. The accomplishment of much good is confidently expected, and the solution of forest problems, either partly solved or wholly unsolved, may result from the work so recently inaugurated.

It is worth while noting one phenomenon which occurred during the closing day of the old year: On December 31, 1909, a violent west wind (chinook) occurred with an attending high temperature; the average wind movement, obtained from dial readings, noon to midnight of date mentioned, was 70 miles per hour. On January 11, 1910, all of the yellow pines on the south slope showed the desiccating effect of the gale and high temperature of December 31—all last season's needles were turning lemon yellow in color, while other tree species were unaffected. Such observations are useful as an aid in the introduction of species better adapted to the climatic conditions of that locality, and this study may be indefinitely expanded.

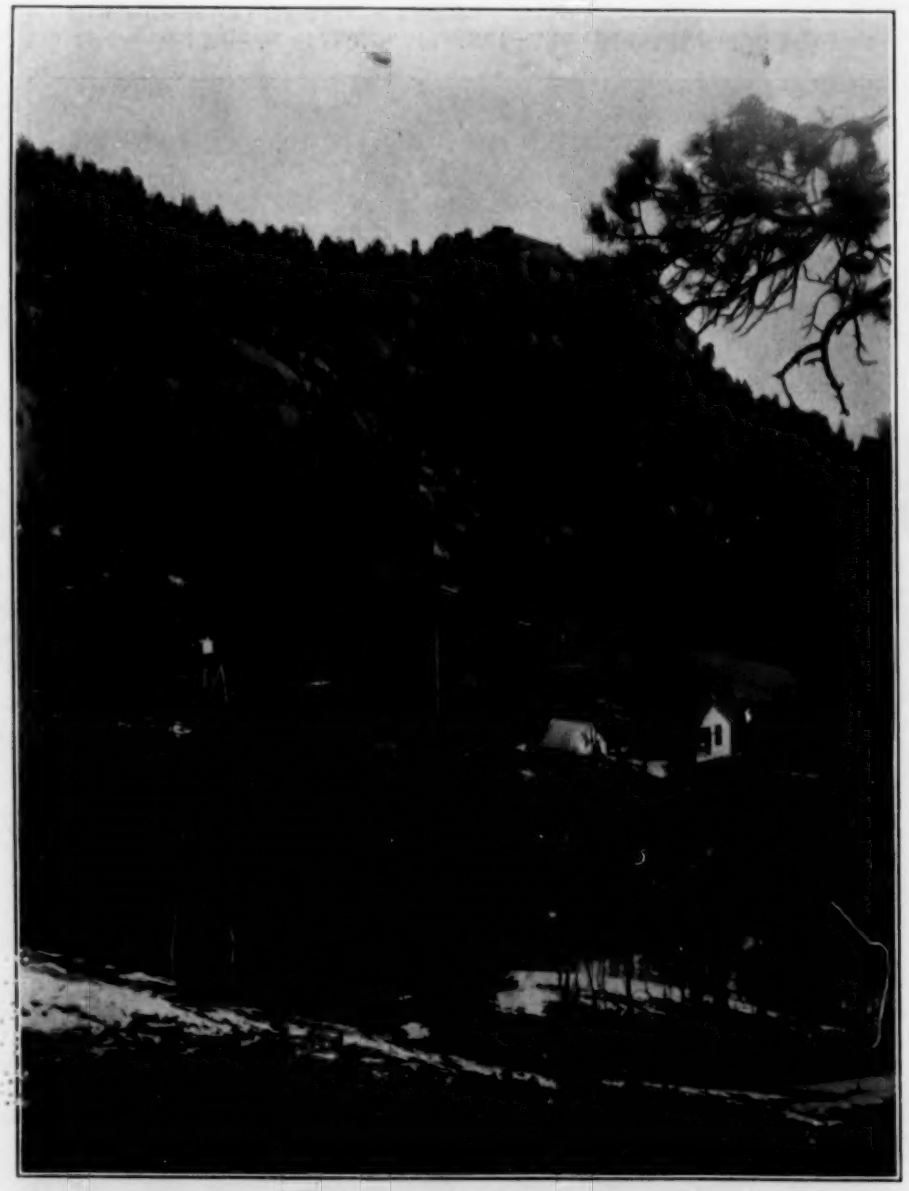


FIG. 1.—Fremont Experiment Station. Station 1 and living quarters, looking toward the northeast and east.

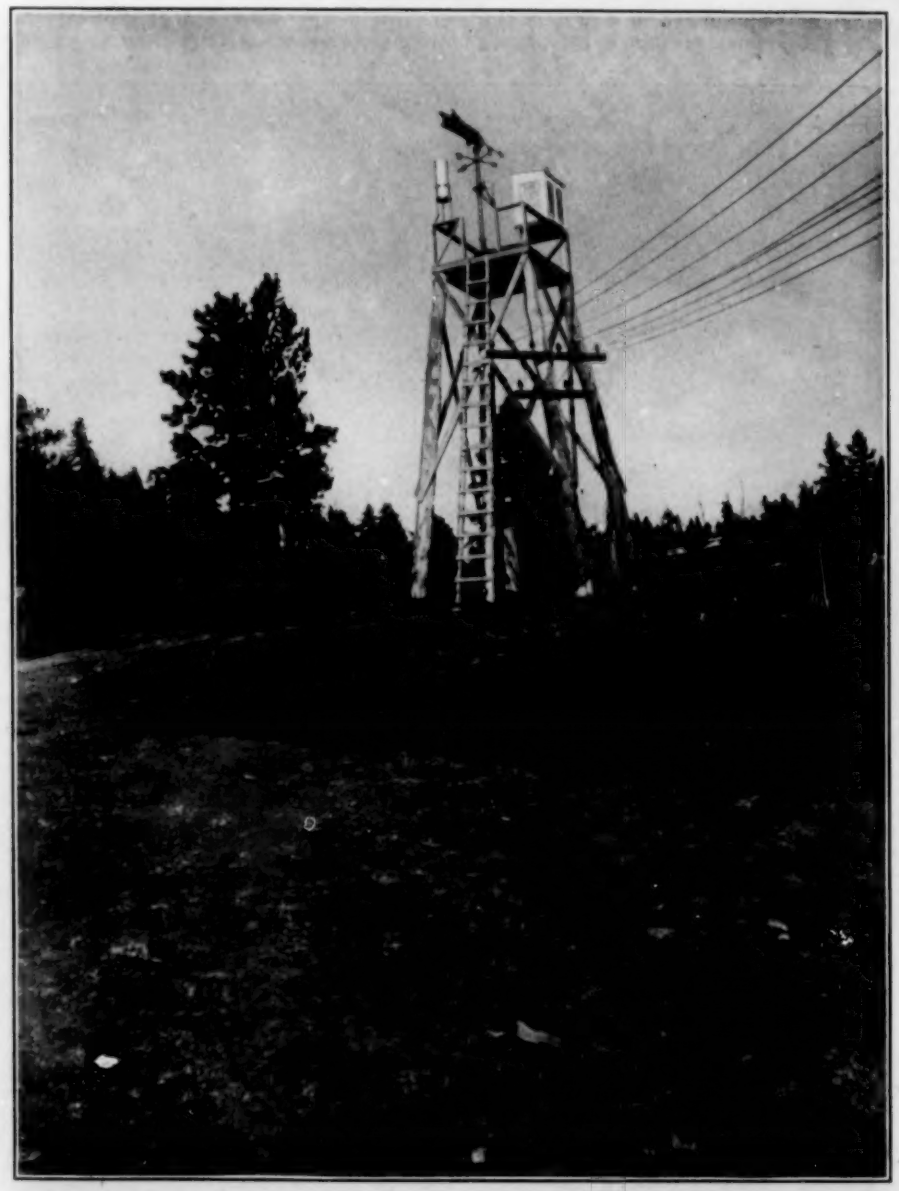


FIG. 2.—Fremont Experiment Station. Station 1—Situated on top of Muskoko ridge which occupies the valley between the south and north slopes upon which stations 2 and 3 are situated. The standard stick gage has been removed from the tower since this view was taken. [See fig. 3.]

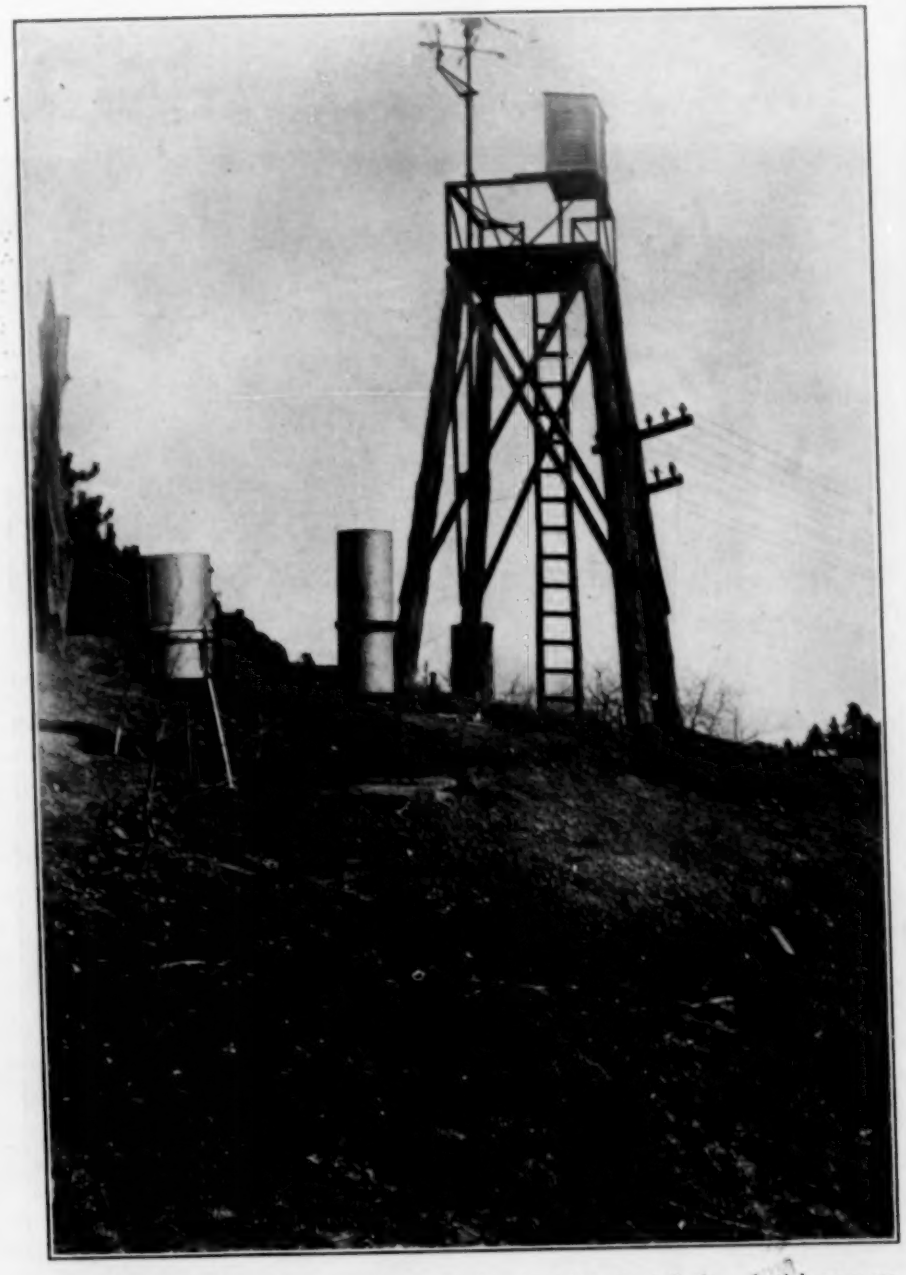


FIG. 3.—Fremont Experiment Station. Station 1—After reinstallation of stick gage on ground beside the tipping bucket gage.

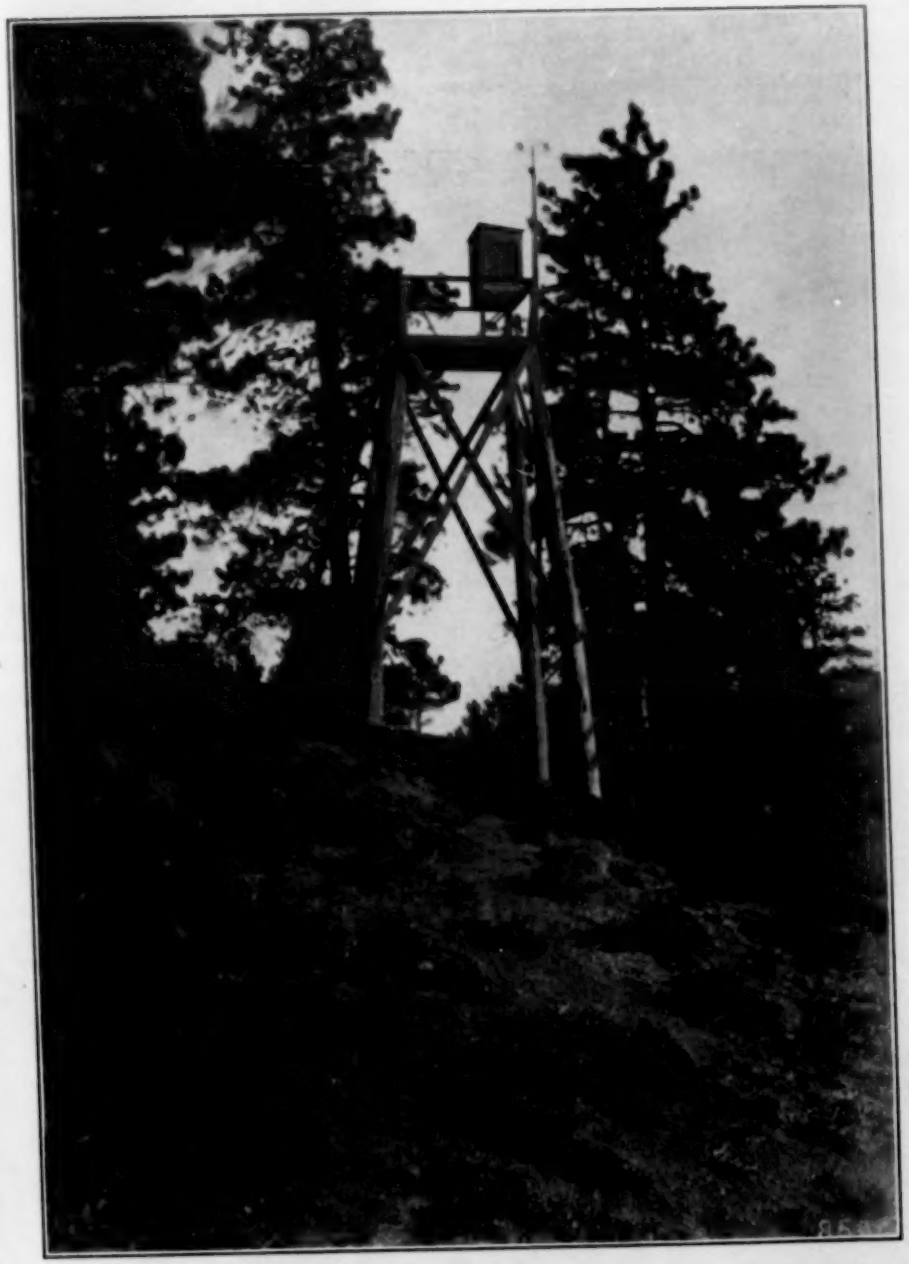


FIG. 4.—Fremont Experiment Station. Station 2—Situated in an open stand of yellow pine on the south slope. The ordinary rain and snow gage here is installed on the ground, but is not shown in the photogrhph.

FIG. 5.—Fremont Experiment Station. Station 3—In a close stand of Engelmann spruce on a north slope.

TABLE 1.—*Climatological data for January, 1910. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Colorado.																			
Blanca	Costilla	8,403	1	23.7	.....	53	24	−13	7	43	0.17	.....	0.16	T.	2	18	12	1	sw	L. C. Audrain.
Cumbres	Conejos	10,015	3								5.43		0.89	38.5	9	13	6	12	sw.	Ida M. Lively.
Garnett	Costilla	7,576	17	20.6	− 3.3	50	24	−14	6†	41	0.07	− 0.34	0.07	1.5	1	18	6	7	n.	Chas. Speiser.
Hermit	Hinsdale	9,843									1.47	.....	0.36	21.6	9	18	4	9	.....	Marion Mason.
La Veta Pass	Costilla	9,000									0.22	.....	0.22	1.8	1	12	10	9	w.	Norvin R. Lively.
Manassa	Conejos	7,700	4	21.0	.....	52	22	−20	3	60	T.	.....	T.	T.	0				sw.	J. B. Chapman.
Platoro	...do	9,675	2								4.85	.....	1.31	47.2	9	21	1	9	w.	Walter R. Hook.
Saguache	Saguache	7,740	18	25.6	+ 6.5	55	24	−12	7	60	T.	− 0.19	T.	T.	0	19	6	6	w.	Eugene Williams.
San Luis	Costilla	7,794	19	24.2	+ 3.4	50	24†	−18	6	43	0.50	+ 0.08	0.20	3.0	4	22	8	1	sw.	P. B. Albright.
Wagon Wheel Gap	Mineral	8,434	11	11.8	− 1.2	55	25	−40	6	69	0.85	+ 0.19	0.27	15.0	6	18	7	6	sw.	Ellwood Bergey.
New Mexico.																			
Agricultural College	Dona Ana	3,863	44	43.8	+ 1.3	74	24	8	7	44	0.22	− 0.10	0.22	0.0	2	20	10	1	nw.	New Mexico Agri. College.
Alamogordo (near)	Otero	4,338	9	44.4[a]	.....	73	24	9	6	37	0.40	.....	0.30	T.	3	15	12	4	sw.	Geo. C. Bemis.
Alamogordo	...do	4,320									0.37	.....	0.19	0.0	3				.....	El Paso & Southwest. R. R.
Albuquerque	Bernalillo	5,200	34	41.4	+ 7.3	69	24	8	7	40	0.14	− 0.25	0.09	0.0	2	25	1	5	n.	University of New Mexico.
Ancho	Lincoln	6,112									0.07	.....	0.04	0.5	4	15	5	11	w.	El Paso & Southwest. R. R.
Artesia	Eddy	3,350									0.08	.....	0.05	0.0	3	16	12	3	se.	Will Benson.
Aspen Grove Ranch	Rio Arriba	9,000									2.23	.....	0.90	18.8	6	17	6	8	.....	Junius D. Maupin.
Bateman's Ranch	...do	8,900									0.81	.....	0.23	8.5	8	17	5	9	sw.	John W. Bateman.
Bluewater	Valencia	6,732	8	31.3	.....	64	24	− 8	7	46	0.27	.....	0.12	2.7	4	14	13	4	n.	Bluewater Development Co.
Bluewater Reservoir	...do	9,000	1								0.03	.....	0.03	0.5	1	28	2	1	.....	Do.
Boas	Chaves	4,154	1	40.3	.....	76	1	9	6	47	0.11	.....	0.08	0.0	2	19	7	5	w.	D. C. Savage.
Capitan	Lincoln	6,348									0.10	.....	0.06	1.0	2	22	5	4	w.	El Paso & Southwest. R. R.
Carlsbad	Eddy	3,120	15	46.4	+ 1.7	86	1	9	7	50	0.09	− 0.22	0.06	0.2	4	14	13	4	se.	U. S. Reclamation Service.
Carrizoso	Lincoln	5,429	2								0.50	.....	0.50	T.	2	23	6	2	sw.	A. H. Harvey.
Chama	Rio Arriba	7,851	11	21.6	− 3.1	60	23	−21	6	49	2.39	+ 0.14	0.56	28.0	7	20	6	5	sw.	Frank C. Johnson.
Cloudcroft	Otero	8,650	7	33.8	.....	60	27	− 6	6	34	0.90	.....	0.90	.....	1	18	7	6	sw.	El Paso & Southwest. R. R.
Corona	Lincoln	6,666									0.53	.....	0.34	6.0	2	18	7	6	n.	Do.
Coyote	...do	5,800									0.29	.....	0.23	T.	4	15	5	11	sw.	Do.
Cundiyo	Santa Fe	6,889	1								0.80	.....	0.23	2.8	7	18	5	8	w.	Teofilo Vijil.
Demonstration Farm	San Miguel	6,800	1								0.02	.....	0.02	0.5	1				.....	Erb & Westerman.
Duran	Torrance	6,272	1								T.	.....	T.	T.	0	22	5	4	.....	W. H. Birkhead.
Edison Mine	Taos	10,600																		Frank L. Paxton.
Elida	Roosevelt	4,345									0.03	.....	0.01	0.2	3	21	6	4	w.	M. W. Waldron.
Elk (near)	Chaves		11																	Boyd Williams.
Escondido	Otero	4,014									0.16	.....	0.09	0.0	2	12	14	5	nw.	El Paso & Southwest. R. R.
Espanola	Rio Arriba	5,590	12	28.2	− 2.1	57	1	−11	6	42	0.45	+ 0.13	0.25	3.0	3	23	5	3	n.	Mrs. E. F. McBride.
Estancia	Torrance	6,140	5	34.6	.....	70	23	− 9	6	58	0.21	.....	0.09	1.8	4	16	10	5	nw.	New Mex. Central R. R.
Fort Stanton	Lincoln	6,231	32	40.6	+ 5.3	72	24	− 1	6	51	0.10	− 0.41	0.10	T.	1	18	10	3	sw.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	7	40.8	.....	74	1	5	6	49	0.51	.....	0.51	5.0	1	28	1	2	sw.	F. A. Manzanares.
Gallinas	Lincoln	6,635									0.49	.....	0.22		3	19	8	4	w.	El Paso & Southwest. R. R.
Gallinas Planting Station	San Miguel	7,500	3	30.7[f]	.....	67	1	−10	6	63	0.62	.....	0.24	3.2	5	12	13	6	ne.	U. S. Forest Service.
Harvey's Upper Ranch	...do	9,400	1								1.42	.....	0.44	17.2	7	17	8	6	se.	Simon B. Warner.
Hillsboro	Sierra	5,224	13	42.5	+ 2.0	81	25	7	6†	49	T.	− 0.60	T.	0.0	0	23	7	1	w.	Dr. Frank I. Givens.
Hodges	Taos	8,484						−10	6		1.24	.....	0.59	16.3	4				nw.	Jas. D. Bird.
Hondo Reservoir	Chaves	3,904	1	42.4	.....	80	1	− 4	6	50	0.04	.....	0.02	0.7	2	21	5	5	s.	U. S. Reclamation Service.
Hope	Eddy		3																.....	C. M. Bott.
Hopewell	Rio Arriba	9,500		18.2	.....	48	23	−26	6	42	2.10	.....	0.75	21.0	7	6	15	10	sw.	John T. Blanton.
Jemez Springs	Sandoval	6,100																	.....	Linus L. Shields.
Laguna	Valencia	5,840	5	35.4	.....	58	24	5	7	47	T.	.....	T.	0.0	0				.....	Gus Weiss.
Lagunita	Guadalupe	4,500	5	38.8	.....	76	24	− 5	6	46	0.18	.....	0.11	1.2	3	16	11	4	w.	P. A. Turnbull.
Lake Valley	Sierra	5,413	5								0.26	.....	0.18	1.0	3	16	13	2	sw.	Wm. P. Keil.
Las Vegas	San Miguel	6,384	23	35.9	+ 2.6	69	22	−13	6	49	0.16	− 0.30	0.16	1.5	2	20	9	2	w.	Dr. Wm. Curtiss Bailey.
Liston	Chaves										0.10	.....	0.10	0.0	2	14	14	3	w.	H. G. Liston.
Los Lunas (near)	Valencia	4,900	20	34.4	+ 0.9	68	24	5	6†	43	0.13	− 0.56	0.08	0.5	2	17	9	5	.....	Richard Pohl.
Los Tanos	Guadalupe	4,919									0.42	.....	0.16	1.5	4	17	7	7	w.	El Paso & Southwest. R. R.
Magdalena	Socorro	6,557	5	35.6	.....	66	24	2	5†	46	0.50	.....	0.50	6.0	2	15	14	2	w.	Wm. Pender.
Malaga	Eddy	3,000		44.6[b]	.....	74	31	13	6	46	T.	.....	T.	T.	0	15	8	8	s.	Capt. Chas. Grapes.
Mineral Hill	San Miguel	7,050	5								0.81	.....	0.44	4.0	3	10	10	11	sw.	W. M. Nelson.
Monterey	Otero	4,436				70	23†	6	6	....	0.27	.....	0.27	T.	1	17	7	7	sw.	El Paso & Southwest. R. R.
Monument	Eddy	3,500	4																.....	Jas. M. Cook.
Mountainair	Torrance	6,547	8	34.6	.....	65	24	− 4	6	38	0.46	.....	0.23	3.0	4	23	6	2	sw.	Mrs. John W. Corbett.
Newman	Otero	3,989				68	3	8	7		T.	.....	T.	0.0	0	23	1	7	se.	El Paso & Southwest. R. R.
Noria	Dona Ana	4,114									T.	.....	T.	0.0	0	24	6	1	ne.	Do.
Orange	Otero																		.....	Jas. Brownfield, jr.
Orogrande	...do	4,171									T.	.....	T.	T.	0	15	12	4	w.	El Paso & Southwest. R. R.
Oscura (near)	Lincoln	5,016	1								0.33	.....	0.18	0.0	2	15	9	7	s.	Eugene F. Jones.
Otis	Eddy	3,100	1								0.14	.....	0.05	T.	4	21	8	2	s.	A. M. Hove.
Otto	Santa Fe	6,200	1								0.38	.....	0.20	1.8	3				.....	W. K. Davis.
Pastura	Guadalupe	5,285									0.25	.....	0.25	0.0	1	5	24	2	w.	El Paso & Southwest. R. R.
Picacho (near)	Lincoln																		.....	P. D. Southworth.
Red River Canyon	Taos	8,650	2	21.6	.....	58	24	−30	6	48	3.30	.....	0.90	36.0	6	20	7	4	e.	Mrs. L. R. Penn.
Rincon	Dona Ana	4,030	12	45.2	+ 3.3	78	1†	14	7†	51	T.	− 0.41	T.	T.	0	13	9	9	s.	Chas. H. Raitt.
Rio Grande Dam	Sierra	4,265	12	42.5	+ 3.0	76	24	7	6†	47	T.	− 0.23	T.	T.	0	22	4	5	se.	U. S. Reclamation Service.
Rosedale	Socorro	6,910	5	38.1	.....	67	24	2	7	35	0.33	.....	0.25	1.0	4	20	4	7	w.	W. H. Martin.
Roswell	Chaves	3,578	12	42.4	+ 3.2	80	1	2	6	49	0.10	− 0.43	0.05	0.7	3	14	8	9	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	14	41.3	+ 1.6	71	24†	6	7	49	0.00	− 0.32	0.00	0.0	0	10	14	7	s.	Atch., Topeka & S. F. R. R.
San Rafael	Valencia	6,509	6	38.4	.....	75	23	− 3	6†	58	0.10	− 0.38	0.10	0.0	2	22	5	4	nw.	Dr. Chas. M. Grover.
Santa Fe	Santa Fe	7,013	37	30.0	+ 1.5	56	24	− 7	6	33	0.76	+ 0.17	0.22	2.4	9	18	9	4	ne.	U. S. Weather Bureau.
Santa Fe Canyon	...do	8,000									0.52	.....	0.36	6.0	3	21	2	8	w.	Candelario Martinez.
Santa Rosa	Guadalupe	4,624	10	40.5	.....	72	24	1	6	47	0.63	+ 0.10	0.32	1.0	4	22	7	2	w.	John L. Chapman.
Socorro	Socorro	4,600	19	36.4	− 0.7	65	22	8	7	37	0.15	− 0.30	0.10	0.0	2	27	3	1	sw.	J. J. Leeson.
Stanley	Santa Fe	6,317	1	27.8	.....	66	24	−14	6	55	0.39	.....	0.19	2.0	3	23	3	5	nw.	Wilbur F. Castle.
Strauss	Dona Ana	4,080	11								0.00	− 0.29	0.00	0.0	0	17	14	0	sw.	Southern Pacific Co.
Swastika Ranch	Valencia	6,400									0.38	.....	0.12	2.0	6	24	7	0	nw.	Swastika S. & L. Co.
Taft	Guadalupe																		.....	A. J. Wilmeth.
Taos	Taos	6,983	12	28.4	+ 1.3	50	1	−12	7	37	1.07	+ 0.22	0.32	6.0	7	22	7	2	sw.	Alexander Gusdorf.
Taos Canyon	...do	8,950									1.53	.....	0.43	10.0	7	16	7	8	sw.	Leocadio Martines, jr.
Tecolote	Lincoln	6,539									0.58	.....	0.25	0.8	5	21	3	7	w.	El Paso & Southwest. R. R.
Three Rivers	Otero	4,559									0.20	.....	0.20	0.0	1	20	6	5	.....	Do.
Torrance	Torrance	6,433									T.	.....	T.	T.	0	14	6	11	nw.	Do.
Tres Piedras	Taos	8,076	5	21.8	.....	52	2†	−18	6	44	1.05	.....	0.30	6.5	6	22	0	9	sw.	Edwin B. Seward.
Truchas	Rio Arriba	7,935	1								1.00	.....	0.50	10.0	3	11	19	1	.....	Ignacio Cordova.
Tularosa	Otero	4,436	2	45.2	.....	73	1	7	6	37	0.28	.....	0.18	0.0	3	16	11	4	sw.	Irby L. Fairless.
Vaughn	Guadalupe	5,952									0.00	.....	0.00	0.0	0				.....	El Paso & Southwest. R. R.
Winsors	San Miguel	8,200	12	27.0	.....	56	24	−19	6	41	1.03	− 0.20	0.40	8.0	7	15	8	8	w.	Henry D. Winsor.

TABLE 1.—*Climatological data for January, 1910. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas.																				
Abilene	Taylor	1,738	25	47.7	+ 5.1	82	1	17	6	37	0.37	− 0.53	0.35	T.	3	14	5	12	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	16	46.0	+ 1.8	86	1	13	6†	65	0.29	− 0.87	0.29	0.0	1	18	5	8	.....	N. L. Bartholomew.
Alvin	Brazoria	49	11	.....	.....	.....	.....	.....	.....	.....	3.40	− 0.25	2.30	0.0	4	19	6	6	ne.	F. A. Smith.
Anahuac‖	Chambers	23	1	.....	.....	.....	.....	.....	.....	.....	2.89	.....	2.48	0.0	4	.....	.....	.....	.....	B. H. Collins.
Austin	Travis	593	24	52.4	+ 2.8	75	25	20	7	40	0.17	− 1.92	0.14	0.1	3	19	7	5	c.	A. Deussen.
Ballinger	Runnels	1,637	15	46.6	+ 1.6	85	2†	11	6	50	0.10	− 0.63	0.10	1.0	1	18	2	11	n.	E. M. Eubank.
Barstow	Ward	2,573	3	49.8	.....	89	1	15	8	50	T.	.....	T.	0.0	0	23	3	5	se.	W. H. Denis.
Bay City	Matagorda	53	...	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.44	0.0	3	22	1	8	s.	E. C. Quereau.
Beaumont	Jefferson	29	13	55.9	+ 2.1	80	26	26	6	37	3.41	+ 0.58	.....	0.0	5	19	0	12	se.	John Bender.
Beeville	Bee	225	14	57.7	+ 3.0	81	1	21	7	42	3.01	+ 1.78	1.80	0.0	6	12	10	9	e.	L. E .Dickey.
Big Springs	Howard	2,396	12	48.2	.....	85	1†	15	6	45	0.23	− 0.19	0.18	0.0	3	20	2	9	s.	B. Reagan.
Blanco	Blanco	1,350	14	47.5	− 1.8	75	1†	13	7	44	0.24	− 1.17	0.14	T.	2	21	9	1	n.	R. C. Crist.
Boerne	Kendall	1,412	18	53.2	+ 4.4	81	23	20	6	44	0.05	− 1.50	0.05	T.	1	16	3	12	n.	F. W. Schweppe.
Booth	Fort Bend	81	9	.....	.....	.....	.....	.....	.....	.....	1.26	.....	0.50	0.0	4	17	0	14	e.	T. R. Booth.
Bowie	Montague	1,113	16	45.6	+ 1.4	83	1	18	6†	41	0.30	− 0.41	0.26	0.0	2	17	6	8	n.	Craig Anderson.
Brazoria	Brazoria	25	21	.....	.....	78[k]	3†	21[k]	7	32[k]	.....	.....	2.10[k]	0.0[k]	7[k]	10[k]	9[k]	1[k]	se.	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	1	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.31	T.	4	20	0	11	n.	Robt. E. Boyett.
Brenham	Washington	350	21	52.8	+ 0.6	78	1	22	7	37	1.12	− 2.77	0.69	0.0	4	15	4	12	n.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Wm. M. Wilkinson.
Brighton	Nueces	12	14	60.6	+ 4.7	82	31	24	7	33	0.10	− 1.20	0.05	0.0	3	9	18	4	se.	G. H. Ritter.
Brownsville	Cameron	38	21	63.2	+ 5.5	82	18	30	7	33	0.35	− 1.03	0.14	0.0	6	.....	.....	.....	s.	U. S. Weather Bureau.
Brownwood	Brown	1,342	20	46.4	− 0.7	85	1	13	8	48	0.20	− 1.30	0.10	T.	2	18	2	11	n.	Mrs. Pearl Smith.
Cameron	Milam	.....	2	49.1	.....	80	26	18	7	42	0.62	.....	0.40	0.2	4	23	4	4	n.	J. E. Watts.
Carmona	Polk	330	2	52.3	.....	78	1	14	7	45	1.00	.....	0.52	0.2	5	19	9	3	s.	M. S. Spitler.
Claytonville	Fisher	2,100	6	47.4	.....	80	1	12	6	60	0.80	.....	0.80	0.0	1	14	8	9	s.	Wm. Lanius.
Coleman	Coleman	1,710	16	51.2[b]	+ 3.9	89[d]	23	18	6	51[d]	0.40	− 0.54	0.40	0.0	1	19	3	9	s.	J. H. Tucker.
College Station	Brazos	308	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	R. M. Webb.
Columbia	Brazoria	34	21	56.8	+ 3.0	79	26	19	7	35	2.53	− 1.13	2.00	0.0	3	19	9	3	s.	R. B. Loggins.
Columbus	Colorado	206	6	.....	.....	.....	.....	.....	.....	.....	1.54	.....	0.80	0.0	4	10	9	12	nw.	Mrs. Sophie Bridge.
Comstock	Valverde	1,557	1	47.7	.....	80	24	15	6	42	0.40	.....	0.39	0.1	2	20	5	6	se.	A. D. Brown.
Corpus Christi	Nueces	20	23	57.6	+ 4.1	78	26	30	7	29	0.83	− 1.42	0.37	0.0	4	13	11	7	se.	U. S. Weather Bureau.
Corsicana	Navarro	445	21	47.8	+ 0.4	78	1	19	8	40	1.27	− 1.16	0.70	2.0	4	19	1	11	se.	E. L. Gibson.
Crockett	Houston	350	6	53.7	.....	80	12	19	7	36	T.	.....	T.	0.0	0	13	10	8	s.	A. M. Rencher.
Cuero	DeWitt	177	21	54.4	+ 1.7	80	3†	20	7	40	4.22	+ 2.11	2.35	0.0	4	19	1	11	n.	H. R. Frobese.
Dallas	Dallas	466	21	46.5	+ 1.6	79	1	14	7†	46	1.57	− 0.95	0.91	0.0	5	18	0	13	n.	G. A. Eisenlohr.
Danevang	Wharton	145	14	57.4	+ 3.9	78	2†	19	7	40	1.15	− 2.01	0.70	0.0	2	24	3	4	se.	H. P. Hermansen.
Decatur	Wise	1,047	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Fort Worth & Denver Ry.
Del Rio	Valverde	952	4	52.7	+ 2.5	84	23	20	7	50	0.03	− 1.65	0.02	0.0	2	15	7	9	se.	U. S. Weather Bureau.
Devine‖	Medina	653	...	55.4	.....	82	25	19	7	46	0.28	.....	0.21	0.3	2	16	6	9	se.	M. A. Keller.
Dialville	Cherokee	575	12	51.5	.....	74	2	17	7	40	1.49	− 1.02	0.61	0.0	6	16	7	8	sw.	J. M. B. McKnight.
Dilley	Frio	569	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	John W. Miller.
Dublin	Erath	1,466	15	47.2	+ 1.7	78	1†	13	6	33	0.59	− 0.73	0.35	3.5	2	12	10	9	n.	Jno. O. Shafer.
Duval	Travis	820	21	51.9	+ 1.1	80	23	20	7	39	0.15	− 1.52	0.15	T.	1	21	1	9	s.	J. C. Edgar.
Eagle Pass	Maverick	800	21	56.1	+ 3.0	86	30	25	7	56	0.12	− 0.63	0.12	0.0	1	3	25	3	.....	Jos. Metcalfe.
Edna	Jackson	71	1	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.60	0.0	6	.....	.....	.....	.....	E. L. Faires.
El Paso	El Paso	3,762	31	46.6	+ 2.5	77	1	13	7	36	0.21	− 0.30	0.21	0.0	2	13	14	4	nw.	U. S. Weather Bureau.
Encinal	La Salle	558	2	59.4	.....	87	17	23	7	46	1.13	.....	1.05	0.0	2	14	10	7	se.	H. C. Braden.
Fairland	Burnet	1,000	1	50.4	.....	87	31	15	7	47	0.17	.....	T.	T.	1	17	7	7	n.	R. L. Bush.
Falfurrias	Starr	.....	3	59.6	.....	85	25	16	7	55	T.	.....	T.	0.0	0	22	6	3	se.	W. A. Gardner.
Flatonia	Fayette	465	2	55.2	.....	81	28	22	7	36	1.54	.....	0.65	0.0	4	17	6	8	n.	Fred W. Laux.
Flint	Smith	483	...	50.4	.....	76	2	14	7	41	.....	.....	.....	T.	5	17	5	9	sw.	F. C. C. Carter.
Fort Clark	Kinney	1,050	23	52.6	+ 0.1	82	24	16	5	42	0.10	− 0.76	0.10	T.	1	13	9	9	e.	Post Hospital.
Fort McIntosh	Webb	460	24	59.4	+ 3.5	89	24	22	7	52	0.45	− 0.39	0.45	0.0	1	15	7	9	e.	Do
Fort Stockton	Pecos	3,050	13	51.1	+ 7.7	88	1	9	6	50	0.24	− 0.16	0.22	0.2	2	16	13	2	n.	H. H. Buts.
Fort Worth	Tarrant	670	15	48.2	+ 3.9	79	1	15	7	37	1.36	− 0.43	0.50	5.0	3	14	10	7	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	21	49.6[a]	+ 0.9	78	3	16	7	47[a]	0.19	− 1.31	0.16	0.8	2	18	3	10	s.	Arthur Striegler.
Gainesville	Cooke	738	21	44.8	+ 1.5	77	1	17	7	43	0.99	− 0.92	0.68	.....	2	.....	.....	.....	.....	J. L. Hickson.
Galveston	Galveston	69	40	55.2	+ 2.5	71	26	39	7	23	2.05	− 1.57	1.51	0.0	7	10	17	4	se.	U. S. Weather Bureau.
Gatesville	Coryell	795	6	47.9[b]	.....	78	23	14	7	46[b]	0.70	.....	0.60	1.0	2	.....	.....	.....	.....	John Ryan.
Georgetown	Williamson	750	15	51.0	+ 1.8	82	23	14	7	49	0.12	− 1.87	0.09	0.0	3	23	1	7	n.	Prof. R. F. Young.
Gonsales	Gonsales	299	5	.....	.....	.....	.....	.....	.....	.....	1.50	.....	0.87	0.0	3	14	2	15	s.	J. M. Johnson.
Graham	Young	1,040	11	.....	.....	89	1	22[c]	20†	54[c]	T.	− 0.53	T.	0.0	0	16	3	12	s.	C. W. Johnson.
Grand Saline	Van Zandt	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	F. E. Whittemore.
Grapevine	Tarrant	670	20	47.2[b]	+ 1.6	79[b]	1	10	7†	42[b]	1.61	− 0.38	0.65	7.0	4	15	5	11	s.	W. J. Crowley.
Greenville	Hunt	550	10	46.0	+ 0.6	73	2†	18	7†	40	1.00	− 0.70	0.60	1.0	3	16	0	15	w.	J. P. Regan.
Hallettsville	Lavaca	235	19	53.8	+ 1.5	76	3	22	7	35	1.75	− 0.34	1.23	0.0	2	17	4	10	s.	Dr. J. E. Lay.
Harper	Gillespie	.....	...	.....	.....	.....	.....	.....	.....	.....	0.04	.....	0.02	0.4	3	22	0	9	.....	Christian Fritz.
Haskell	Haskell	4,013	19	44.6	+ 4.3	84	1	17	6†	44	T.	− 0.79	T.	0.0	0	18	8	5	n.	P. D. Sanders.
Hebbronville	Duval	.....	3	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	Henry Edds.
Hempstead	Waller	254	6	.....	.....	.....	.....	.....	.....	.....	0.57	.....	0.32	0.0	2	14	4	13	e.	J. H. Hancock.
Henderson	Rusk	500	1	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.80	0.0	5	12	9	10	.....	M. Kangerga.
Hewitt	McLennan	664	15	.....	.....	.....	.....	.....	.....	.....	0.69	− 2.30	0.53	0.0	3	.....	.....	.....	.....	I. H. Earle.
Hillsboro	Hill	628	7	50.0	.....	85	24	19	6	42	0.00	.....	0.0	0.0	0	.....	.....	.....	.....	Thompson & Campbell.
Hondo	Medina	901	8	53.8	.....	78	26	18	7	39	.....	.....	.....	0.0	...	13	12	6	.....	H. E. Haass.
Houston	Harris	138	21	55.6	+ 3.3	78	1	24	7	30	1.59	− 2.54	0.83	0.0	5	16	12	3	se.	U. S. Weather Bureau.
Huntsville	Walker	400	22	50.4	+ 0.5	75	1†	17	7†	37	.....	.....	.....	.....	...	14	0	17	e.	W. Y. Barr.
Jewett	Leon	406	6	50.1	.....	80	20†	18	7	46	.....	.....	.....	.....	...	26	3	2	s.	Earle Adkisson.
Junction	Kimble	1,645	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Judge John S. Durst.
Kaufman	Kaufman	448	11	48.7	+ 1.2	74	2†	19	7	36	1.16	− 0.78	0.76	1.0	3	18	6	7	s.	B. J. Hubbard.
Keene	Johnson	940	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Industrial Academy.
Kerrville	Kerr	1,650	15	48.9	+ 2.7	80	22†	11	7	61	0.00	− 1.16	0.00	0.0	0	17	3	11	n.	Mrs. F. Coleman.
Knickerbocker	Tom Green	2,050	6	48.2	.....	84	1	5	6	46	0.61	.....	0.52	1.0	3	19	3	9	s.	Jos. Tweedy.
Kopperl	Bosque	576	10	.....	.....	.....	.....	.....	.....	.....	1.16	− 0.03	0.80	0.0	3	12	7	12	n.	T. A. Johnson.
Lampasas	Lampasas	1,026	19	48.3	+ 0.6	81	22	14	7	56	1.06	− 0.52	0.52	0.0	5	11	12	8	n.	Mrs. K. I. Webber.
La Parra	Cameron	38	8	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.50	0.0	1	.....	.....	.....	.....	John G. Kennedy.
Laureles Ranch	Nueces	20	11	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	Matt Cody.
Le Min Ranch	Terrell	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Lewis Le Min.
Liberty	Liberty	38	6	54.8	.....	87	2	20	7	42	2.46	.....	1.10	0.0	4	14	13	4	n.	Mrs. Fannie Sneed.
Llano	Llano	1,040	19	50.0	+ 0.3	89	1	16	7	47	0.02	− 1.00	0.02	0.0	1	24	4	3	e.	E. W. Torrence.
Llano Grande	Hidalgo	86	2	60.0	.....	87	18	17	7	52	0.10	.....	0.10	0.0	1	24	1	6	se.	M. D. Wardlow.
Long Lake	Anderson	229	5	.....	.....	.....	.....	.....	.....	.....	0.84	.....	0.30	0.0	4	13	2	16	s.	Tom Ritson.
Longview	Gregg	336	21	48.2	+ 1.6	86	26	20	6†	48	1.76	− 2.71	0.74	T.	8	17	0	14	se.	C. A. Propst.
Lufkin	Angelina	325	3	53.1	.....	79	25	16	7	43	1.58	.....	0.50	T.	5	19	4	8	s.	T. A. King.
Luling	Caldwell	418	21	53.4	+ 1.5	77	1†	19	7	36	0.81	− 1.09	0.51	T.	3	15	1	15	n.	John Carter.
McGregor	McLennan	713	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	T. E. Streight.
Marathon	Brewster	4,043	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Rev. A. P. Willis.

TABLE 1.—*Climatological data for January, 1910. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Texas—Cont'd.																			
Marble Falls	Burnet	771	2	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.06	0.0	3	15	2	14	n.	Wm. Harrison.
Marfa	Presidio	.....	2	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	R. K. Colquitt.
Marshall	Harrison	375	1	49.7	.....	76	1	17	7	38	2.40	.....	0.80	0.2	7	8	15	8	s.	Lee Scott.
Mexia	Limestone	537	6	47.7	.....	76	23	18	6†	46	1.26	.....	0.55	0.0	6	11	9	11	s.	Miss Josephine Newman.
Midland	Midland	.....	3	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	20	8	3	sw.	H. J. Elder.
Mont Belvieu‖	Chambers	65	.....	.....	.....	.....	.....	.....	.....	.....	2.36	.....	1.95	0.0	4	.....	.....	.....	.....	A. R. Shearer.
Mt. Blanco	Crosby	2,750	22	43.0	+ 3.4	84	25	13	6	54	0.08	− 0.58	.....	0.2	2	16	6	9	s.	H. C. Smith.
Nacogdoches	Nacogdoches	271	11	50.1	+ 1.8	77	1	16	7	40	1.56	− 1.62	0.68	T.	3	14	4	13	n.	Miss Mary Hofmann.
New Braunfels	Comal	720	21	52.1	+ 0.5	77	23	19	7	42	0.27	− 1.53	0.25	0.0	2	15	7	9	n.	J. Gieseeke.
Palestine	Anderson	510	28	50.8	+ 4.3	75	23	20	6	37	0.48	− 3.39	0.18	T.	8	15	8	8	s.	U. S. Weather Bureau.
Panter	Hood	1,000	20	.....	.....	.....	.....	.....	.....	.....	0.88	− 0.92	0.49	4.2	3	.....	.....	.....	.....	E. H. Snider.
Pearsall	Frio	629	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	H. E. Walker.
Pierce	Wharton	102	4	51.8	.....	79	16	15	7	38	0.74	.....	0.48	0.0	2	14	7	10	.....	R. B. Pointer.
Plainview	Hale	3,370	2	41.6	.....	81	1	11	6	46	0.30	.....	0.17	0.0	2	19	7	5	sw.	J. F. Sander.
Port Lavaca	Calhoun	20	9	57.2	.....	81	17†	20	7	33	1.28	.....	0.83	0.0	3	13	13	5	e.	J. H. Bickford.
Ricardo	Nueces	57	1	60.6	.....	86	12	23	7	46	0.80	.....	0.52	0.0	4	20	9	2	s.	Lindsay Waters.
Riverside	Walker	169	6	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.40	0.0	2	5	0	26	n.	Mrs. C. W. Higdon.
Robert Lee	Coke	1,850	2	46.6	.....	84	1	15	7	49	0.15	.....	0.08	0.2	2	19	4	8	s.	H. D. Pearce.
Rockland	Tyler	136	6	.....	.....	.....	.....	.....	.....	.....	2.23	.....	1.10	0.0	4	13	2	16	n.	D. W. Bellamy.
Rossville	Atascosa	558	3	55.8	.....	78	25	19	7	41	0.94	.....	0.46	0.0	4	15	12	4	se.	W. F. M. Ross.
Runge	Karnes	308	15	.....	.....	.....	.....	.....	.....	.....	2.44	− 1.21	1.70	0.0	3	.....	.....	.....	.....	Reiffert & Frobese.
Sabinal	Uvalde	964	6	56.2	.....	82	23	18	7	42	0.46	.....	0.30	0.1	4	13	2	16	e.	Jas. Johnson.
San Angelo	Tom Green	1,847	2	48.2	.....	83	1	13	6	47	0.60	.....	0.35	0.6	2	18	5	8	s.	Sam Crowther.
San Antonio	Bexar	701	25	54.7	+ 3.6	80	23	23	7	39	0.88	− 0.80	0.83	0.0	4	14	8	9	se.	U. S. Weather Bureau.
San Augustine	San Augustine	360	1	51.0	.....	76	1†	14	7	41	1.92	.....	0.85	T.	6	12	12	7	.....	F. A. Wilson.
San Juanito‖	Hidalgo	.....	1	62.8	.....	86	17†	21	7	47	T.	.....	T.	0.0	0	6	9	16	n.	J. B. McAllen.
San Marcos	Hays	588	17	51.6	+ 0.4	77	18	17	7	43	0.20	− 1.29	0.20	0.0	1	18	0	13	n.	Miss L. C. Ford.
San Saba	San Saba	1,712	6	47.9	.....	81	1	10	6	49	0.35	.....	0.15	0.4	5	21	3	7	n.	Jas. Burns.
Santa Gertrudes	Nueces	.....	8	.....	.....	.....	.....	.....	.....	.....	0.91	.....	0.42	0.0	3	.....	.....	.....	.....	J. B. Wright, jr.
Seymour	Baylor	1,180	4	44.4	.....	86	25	15	6	48	0.50	.....	0.25	0.0	3	22	1	8	s.	F. M. Deaver.
Somerville	Burleson	251	1	54.5	.....	80	24	20	7	44	0.04	.....	0.04	0.0	1	4	18	9	s.	W. A. Dolan.
Sonora	Sutton	2,300	7	47.0	.....	82	1	11	7	49	0.38	.....	0.20	2.0	3	3	19	9	s.	Mike Murphy.
Sugarland	Fort Bend	79	12	56.4	+ 3.6	80	1†	20	7	48	1.62	− 1.19	1.10	0.0	3	16	10	5	s.	O. M. Bakke.
Taylor	Williamson	583	9	50.8	+ 3.3	78	23	18	5	39	0.20	− 2.62	0.15	T.	4	20	5	6	n.	U. S. Weather Bureau.
Temple	Bell	630	16	51.6	+ 4.6	81	22	20	5†	47	0.62	− 1.57	0.43	0.0	4	16	8	7	s.	H. D. Patterson.
Tilden	McMullen	.....	4	55.8°	.....	86°	4	18	7	54°	0.37	.....	0.23	0.0	4	11°	6°	8°	e.	Wm. Kuykendall.
Tivoli	Refugio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Gisler.
Uvalde	Uvalde	937	2	55.6	.....	83	24	16	7	47	0.55	.....	0.55	0.0	1	13	10	8	se.	F. M. Getzendaner.
Valley Junction	Robertson	289	5	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	0.0	1	17	0	14	n.	T. M. Williams.
Victoria	Victoria	187	12	56.8	+ 3.2	78	1†	21	7	38	2.70	− 0.07	2.30	0.0	2	16	0	15	n.	C. C. Zirjacks.
Waco	McLennan	424	21	48.4	− 0.4	75	2†	18	7†	40	1.12	− 1.35	1.02	0.0	4	19	1	11	s.	E. H. Hall.
Waxahachie	Ellis	556	14	44.9°	0.0	78°	24	14	7†	50°	1.31	− 0.81	0.75	1.0	4	20	2	9	n.	C. D. Longserre.
Weatherford	Parker	864	21	44.9	+ 0.2	79	1	13	7	38	1.12	− 0.62	0.55	5.0	4	19	2	10	s.	Miss J. Stickfort.
Wharton	Wharton	105	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. F. M. Hughs.
Wills Point	Van Zandt	524	5	46.6	.....	72	21†	15	7	36	2.37	.....	1.00	1.0	4	16	5	10	n.	W. W. Gibbard.
Zapata	Zapata	300	1	59.8	.....	85	4	19	7	48	1.27	.....	1.27	0.0	1	16	7	8	se.	F. H. Earnest.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 8, Texas and Rio Grande Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blanca	Rio Grande		.16	T.	T.						.01	T.				T.	T.	T.										T.				0.17
Cumbres	do	.89	.77	.80	.55	.02						.59	.51	T.		T.	.52	.78	T.								T.	T.					5.43
Garnett	do			.07																													0.07
Hermit	do	.36	.19	.31	.08							.13				.03	.16	.16										.05					1.47
La Veta Pass	do			.22																													0.22
Manassa	do		T.	T.	T.												T.																T.
Platora	do	1.31	1.28	.42	.19							.28	.29		.07		.45	.56								T.							4.85
Saguache	do	T.		T.								T.					T.																T.
San Luis	do		.20	.02	.18							T.	.10					T.	T.									T.					0.50
Wagon Wheel Gap	do		.13	.27	.20							.05					.05	.15															0.85
New Mexico.																																	
Agricultural College	Rio Grande											*	.22																			T.	0.22
Alamogordo (near)	do		*	.05	T.							.05	.30		T.	T.																	0.40
Alamogordo	do			.09		T.						.09		.19																			0.37
Albuquerque	do												.09				.05																0.14
Ancho	do		.01		.01							.01		.04																			0.07
Artesia	Pecos			.05		.01						.02			T.																		0.08
Aspen Grove Ranch	Rio Grande		.56	.20		.10						.45					.90	.02								T.							2.23
Bateman's Ranch	do	T.	T.	*	.22	.04	.01					.20	.01				.23	.10															0.81
Bluewater	do		.12	*	.09							T.			.06		T.																0.27
Bluewater Reservoir	do			T.		.03																											0.03
Boas	Pecos				.03								.08																				0.11
Capitan	do			T.	T.	.02						T.	.08																				0.10
Carlsbad	do			.06		.01							.01		.01																		0.09
Carrizozo	Rio Grande				T.	T.						*	.50																				0.50
Chama	do		.27	.54	.56	.07						.32					.36	.27															2.39
Clouderoft	Pecos											.90																					0.90
Corona	do				.34	.19																											0.53
Coyote	Rio Grande	.03				.01						.23	.02																				0.29
Cundiyo	do		.22	*	.23	.19						*	.12				.04																0.80
Demonstration Farm	Pecos		.02																														0.02
Duran	do				T.	T.						T.			T.																		T.
Edison Mine	Rio Grande																																
Elida	Pecos			.01	.01								.01																				0.03
Elk (near)	do																																
Escondido	Rio Grande			T.		T.						.07	.03																				0.16
Espanola	do	T.		.25	.12								T.				.08																0.45
Estancia	do		.09	*	.08	.04																											0.21
Fort Stanton	Pecos		T.	T.	T.	T.						T.	.10																				0.10
Fort Sumner	do				T.	T.						.51																					0.51
Gallinas	do		.07										.22	.20																			0.49
Gallinas Pltg. Station	do		.23		.24	.04						.02	.09														T.						0.62
Harvey's Upper Ranch	do	T.	.05	.09	.23	.12						.23		T.		T.	.26	.44								T.							1.42
Hillsboro	Rio Grande														T.	T.																	T.
Hodges	do	T.	T.		.59	.35						.20			.10		T.																1.24
Hondo Reservoir	Pecos				.02	T.	.02						T.																				0.04
Hope	do																																
Hopewell	Rio Grande	T.	.35	.20	.14	T.						.20	.20		T.		.26	.75															2.10
Jemez Springs	do																																
Laguna	do															T.																	T.
Lagunita	Pecos				.11		T.					.04	.03																					0.18
Lake Valley	Rio Grande				.06							*	.18		.01	.01																	0.26
Las Vegas	Pecos			*	.16	T.	T.						T.																				0.16
Liston	do											*	.10																				0.10
Los Lunas (near)	Rio Grande				.05							.08																					0.13
Los Tanos	Pecos				.10		.04					.12	.16																					0.42
Magdalena	Rio Grande			T.	*	.50						T.			T.																		0.50
Malaga	Pecos			T.		T.							T.	T.																			T.
Mineral Hill	do				.44							.28						.09															0.81
Monterey	Rio Grande					T.						T.	.27																				0.27
Monument	Pecos																																
Mountainair	Rio Grande			.09	T.	.14						*	.23																				0.46
Newman	do			T.																													T.
Noria	do											T.																					T.
Orange	do																																
Orogrande	do					T.						T.	T.																				T.
Oscura	do					T.						.18	.15																				0.33
Otis	Pecos			.03	.05	T.	T.						.04	.02																			0.14
Otto	Rio Grande	.10	T.	.20	T.	T.							.08																				0.38
Pastura	Pecos											.25																					0.25
Picacho (near)	do																																
Red River Canyon	Rio Grande	.80			.90							.48					.72	.40															3.30
Rincon	do				T.							T.	T.																				T.
Rio Grande Dam	do			T.		T.						T.																					T.
Rosedale	do	*	.07									.25	.01				T.																0.33
Roswell	Pecos			.05		.02						.03																					0.10
San Marcial	Rio Grande																																0.00
San Rafael	do		*	.10																													0.10
Santa Fe	do	.12	.04	.11	.06	.01						.12	.05			.03	.22	T.															0.76
Santa Fe Canyon	do			*	.36	.16																											0.52
Santa Rosa	Pecos			T.	.07							.20	.32				.04																0.63
Socorro	Rio Grande		.05									.10																					0.15
Stanley	do		.02	T.	.18								.19			T.	T.																0.39
Strauss	do																																0.00
Swastika Ranch	do		.03	T.	.03	T.					T.	.12				.06	.10	.04															0.38
Taft	Pecos																																
Taos	Rio Grande	.20		*	.27							*	.32				.27	.01															1.07
Taos Canyon	do	T.	.43	.07	.31	T.						T.	.22			T.	.12	.35	.03														1.53
Tecolote	do		.05		.06	.02						.20	.25																				0.58
Three Rivers	do											.20																					0.20
Torrance	Pecos				T.	T.																											T.
Tres Piedras	Rio Grande	.20	.25		.10							.10					.10	.30															1.05
Truchas	do	.50	.25	.25								T.					T.	T.															1.00
Tularosa	do				T.	T.						.08	.02	.18	T.																		0.28
Vaughn	Pecos																																0.00
Winsors	do	.03	.07	T.	.28							.02	.40				.19	.04															1.03
Texas.																																	
Abilene	Brazos			T.	.02	T.							.16	.19																			0.37
Albany	do			T.		T.							.29																				0.29
Alvin‖	Coast			2.30	.64										.15						.31							T.				3.40
Anahuac	do					2.48	.07							.16							.18											2.89
Austin	Colorado				.14		.01														.02											0.17
Ballinger‖	do				T.		.10							T.																		0.10
Barstow	Pecos			T.									T.	T.																			T.

TABLE 2.—*Daily precipitation for January, 1910. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Bay City	Colorado					.44									.20						.15										T.		0.79
Beaumont	Neches				*	*	2.71												.08	T.	.62	T.										3.41
Beeville	Coast				.06	T.	.57							.48	1.80		T.		T.		.05											.05	3.01
Big Springs	Colorado			T.	.04								.01	.18																			0.23
Blanco	Guadalupe					.10	.14																										0.24
Boerne	San Antonio				.05	T.																											0.05
Booth	Brazos					.12	.50								.18						.46												1.26
Bowie	Trinity				T.	.04								.26																			0.30
Brazoria	Brazos																																
Brazos	...do					.01	.01						.31	.31																			0.64
Brenham	...do				.06	T.	.69							T.	.28			T.			.09												1.12
Bridgeport	Trinity																																
Brighton	Coast				.02	.03														.05													0.10
Brownsville	Rio Grande					.14	.04							.11	T.		.02			.03											.01		0.35
Brownwood	Colorado				T.	.10	T.						T.		.10																		0.20
Cameron	Brazos				T.	.18	.92							T.	.40						.02												0.62
Carmona	Neches				T.	.32	.02							.29				.05			.12							T.					1.00
Claytonville	Brazos													.80																			0.80
Coleman	Colorado													.40																			0.40
College Station	Brazos																																
Colorado	Colorado																																
Columbia	Brazos					2.00								.10						T.	.43												2.53
Columbus	Colorado				.40	T.	.30								.80							.04											1.54
Comstock	Rio Grande					.01								.39																			0.40
Corpus Christi	Coast				.16	.37								.24						.06													0.83
Corsicana	Trinity					.20	.20							.70	.17																		1.27
Crockett	...do			T.																									T.				T.
Cuero	Guadalupe					.40	1.20							.27	2.35																		4.22
Dallas	Trinity				.04	.41	.21							.75	.16														T.				1.57
Danevang	Coast					.70								.45																			1.15
Decatur	Trinity																																
Del Rio	Rio Grande				T.	.02	T.							T.				.01															0.03
Devine	Nueces						.03							T.	.21	T.					T.													0.24
Dialville	Neches			T.	.10	.61							.35						.08		.30								.05				1.49
Dilley	Nueces																																
Dublin	Brazos			T.	T.	T.	.35						T.	.24																			0.59
Duval	Colorado				.15	T.	T.						T.	T.							T.													0.15
Eagle Pass	Rio Grande													.12																			0.12
Edna	Lavaca				.15	.20				T.			.70	1.60				.20								T.				10			2.95
El Paso	Rio Grande											.14	.07																				0.21
Encinal	Nueces					.08									1.05																			1.13
Fairland	Colorado				T.	T.	T.					T.		.17																				0.17
Falfurrias	Coast													T.						T.														T.
Flatonia	Guadalupe				.15	.65								.65	.09	T.																		1.54
Flint	Neches																																
Fort Clark	Rio Grande					T.								T.		T.	.10																0.10
Fort McIntosh	...do													.45																			0.45
Fort Stockton	Pecos			T.	T.	.02								.22																			0.24
Fort Worth	Trinity			T.	.37	.50						T.	T.	.49			T.																1.36
Fredricksburg	Colorado	T.				.16	.03					T.					T.									T.							0.19
Gainesville	Trinity				.68									.31																			0.99
Galveston	Coast			T.	.04	1.50	.01							.23					.06		.20				.01								2.05
Gatesville	Brazos						.10							.60																			0.70
Georgetown	...do			T.	.02	.09								.01																			0.12
Gonzales	Guadalupe					.19	.44								.87																			1.50
Graham	Brazos			T.																													T.
Grand Saline	Sabine																																
Grapevine	Trinity			.05	.45	.65									.46																			1.61
Greenville	Sabine				T.	.30	.10							.60															T.				1.00
Hallettsville	Lavaca			T.	T.	1.23								.52			T.			T.													1.75
Harper	Colorado					.01	.02	.01																									0.04
Haskell	Brazos			T.									T.																				T.
Hebbronville	Coast																																0.00
Hempstead	Brazos			T.			.32	.25							T.																			0.57
Henderson	Neches			T.	T.	.80								.56					10	.60								.04					2.10
Hewitt	Brazos				.12	.04								.53																			0.69
Hillsboro	...do																																0.00
Hondo	Nueces																																
Houston	Coast		T.		.01	.83								.15					T.	.03	.57												1.59
Huntsville	Trinity																																
Jewett	...do																																
Junction	Colorado																																
Kaufman	Trinity				.20	.20								.76																			1.16
Keene	Brazos																																
Kerrville	Guadalupe																																0.00
Knickerbocker	Colorado			T.	.06	T.	.03							.52																			0.61
Kopperl	Brazos			T.	T.	.80	.06							.30																			1.16
Lampasas	...do					.11	.09	.03						T.	.31	.52																	1.06
La Parra	Coast					.50																											0.50
Laureles Ranch	...do																																0.00
Le Min Ranch	Pecos																																
Liberty	Trinity	T.	T.		T.	.45	1.10								.20				T.		.71												2.46
Llano	Colorado				T.	T.								.02																			0.02
Llano Grande	Rio Grande					.10				T.					T.	T.			T.	T.													0.10
Long Lake	Trinity					.04	.22								.28						.30												0.84
Longview	Sabine				.06	.07	.74							.10	.40				.06		.29								.04				1.76
Lufkin	Neches					.50	.09							.46	T.		.07				.46												1.58
Luling	Guadalupe				T.	.20	.10								.51																		0.81
McGregor	Brazos																																
Marathon	Rio Grande																																
Marble Falls	Colorado				.04	.06	T.						T.	T.	.06																			0.16
Marfa	Rio Grande																																0.00
Marshall	Sabine			T.	.14	.80	.12							.32					21		.73								.08				2.40
Mexia	Brazos						.55	.18						.15	.35			.02			.01						T.						1.26
Midland	Colorado																																0.00
Mont Belvieu	Coast			T.	.05	1.95	.03						T.	.33																			2.36
Mt. Blanco	Brazos			*	.08																												0.08
Nacogdoches	Neches					T.	.68								.48				T.		.40							T.					1.56
New Braunfels	Guadalupe				.25		.02																										0.27
Palestine	Trinity			.03	.01	.16	T.							.18					.01	.01	.06					T.		.02					0.48
Panter	Brazos				.21	.49								.18																			0.88
Pearsall	Nueces																																0.00
Pierce	Colorado					.48								.26																			0.74
Plainview	Brazos			.13	.17								T.																				0.30

TABLE 2.—*Daily precipitation for January, 1910. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Port Lavaca	Coast			T.		.24								.83	.21																T.		1.28
Ricardo	do				T.	.52	.05							.10		T.				.13											0.80
Riverside	Trinity						.40								.20			T.			T.											0.60
Robert Lee	Colorado			T.	.07	.08	T.																									0.15
Rockland	Neches					.45	1.10												.15	T.	.53											2.23
Rosnville	Nueces				.10	.02	T.							.46	.36		T.										T.					0.94
Runge	San Antonio					.61						1.70	.13																			2.44
Sabinal	Nueces						.01					.10	.05		.30																	0.46
San Angelo	Colorado			T.	.25	.35								T.																		0.60
San Antonio	San Antonio				.04	T.								.77	.06	.01				T.						T.						0.88
San Augustine	Neches				.10	.85	.14							.28					.05		.80											1.92
San Juanito	Coast					T.																										T.
San Marcos	Guadalupe				.20																											0.20
San Saba	Colorado			.01	.04	.13	.05							.10																		0.35
Santa Gertrudes	Coast					.42	.32		.17																							0.91
Seymour	Brazos			.07	.18	T.							.25		T.																	0.50
Somerville	do					.04								T.																		0.04
Sonora	Rio Grande				.06		.20					.12																				0.38
Sugarland	Brazos					.42								.10					T.		1.10											1.62
Taylor	do	T.			.15	.02								.01				T.		.02												0.20
Temple	Brazos	T.	.03		.13									.43		.03				T.												0.62
Tilden	Nueces				.10	.02	.02							.23							T.											0.37
Tivoli	Guadalupe																															
Uvalde	Nueces					T.								.55																		0.55
Valley Junction	Brazos						.10																									0.10
Victoria	Guadalupe						.40							2.30																		2.70
Waco	Brazos				.06	.04	T.							.30	.72																	1.12
Waxahachie	Trinity				T.	.40	.11							.75	.05																	1.31
Weatherford	do				.03	.08	.55							.46																		1.12
Wharton	Colorado																															
Wills Point	Sabine			T.	.28	.10	1.00							.99															T.			2.37
Zapata	Rio Grande														1.27	T.					T.											1.27

TABLE 3.—*Maximum and minimum temperatures at selected stations January, 1910. District No. 8, Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.														Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountainair.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Springs.		Brownsville.		Corpus Christi.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	43	34	47	32	73	32	86	36	65	35	55	32	50	26	80	31	54	31	70	39	82	53	85	50	78	63	76	63
2...	41	29	40	34	70	52	81	38	60	51	55	42	45	25	73	47	48	33	66	42	76	54	78	52	78	62	75	60
3...	38	19	38	27	62	33	73	35	53	26	49	25	47	22	55	29	42	22	59	22	60	23	64	24	78	62	66	60
4...	34	2	34	— 3	42	32	54	28	38	24	25	15	42	27	46	26	22	2	34	17	38	23	52	23	79	66	75	63
5...	18	— 9	21	— 9	35	19	45	21	27	9	21	9	40	25	26	11	16	— 2	29	8	32	21	46	22	74	53	63	37
6...	11	—14	17	—18	35	13	36	14	24	— 1	22	— 4	38	12	31	2	12	— 7	27	1	35	17	37	15	53	36	44	32
7...	18	—14	24	—16	43	8	49	9	40	12	31	1	32	2	45	7	23	— 4	42	15	45	22	47	20	55	30	44	30
8...	25	—10	31	—10	51	13	57	18	53	15	38	10	36	10	53	14	29	4	47	18	54	30	58	23	65	42	60	36
9...	28	— 7	40	— 2	57	22	54	16	39	8	36	12	40	12	53	15	44	11	50	14	56	22	53	22	66	56	58	45
10...	34	— 3	42	7	63	26	56	23	66	16	50	22	42	16	51	23	47	22	61	20	55	39	61	31	72	48	62	47
11...	34	3	38	15	54	37	61	26	56	26	46	26	47	18	46	32	42	33	51	26	61	47	64	48	76	50	63	53
12...	28	3	41	19	63	45	57	43	58	38	49	35	47	23	57	37	42	26	56	36	70	55	64	54	78	58	65	58
13...	32	8	33	— 2	55	36	53	35	46	28	39	24	50	26	49	31	36	20	47	24	58	35	58	38	78	63	69	51
14...	33	10	35	7	40	30	49	41	56	30	38	28	53	30	47	39	39	28	47	29	44	30	48	34	63	54	51	49
15...	38	14	42	19	59	39	57	36	65	31	47	34	56	35	59	35	43	29	58	24	54	38	56	35	72	52	60	50
16...	44	15	39	30	70	40	77	39	66	40	51	35	50	37	75	36	40	36	64	33	64	52	66	44	78	54	66	56
17...	40	11	36	22	62	44	73	43	59	47	42	38	57	40	72	43	41	23	57	40	68	43	75	50	79	65	74	63
18...	35	— 3	38	1	50	29	66	25	55	19	45	14	59	42	58	28	36	14	60	23	54	34	68	32	82	62	66	55
19...	35	0	42	4	58	28	61	21	57	9	47	20	56	36	57	17	43	21	57	19	59	32	58	29	76	54	60	49
20...	39	1	47	4	61	29	60	31	58	22	48	20	53	29	53	37	41	20	49	21	54	34	57	37	77	58	68	53
21...	37	1	44	2	54	19	59	19	56	10	49	18	54	23	56	16	46	22	64	17	55	26	54	20	62	45	58	42
22...	44	3	49	9	66	24	74	29	62	33	58	20	61	38	69	26	51	25	71	38	67	35	75	33	69	36	68	39
23...	47	10	47	18	68	30	76	34	69	42	62	28	60	34	72	36	54	28	66	35	71	41	70	35	76	47	64	47
24...	50	16	50	26	74	36	77	33	72	27	65	34	67	39	75	30	56	33	72	31	75	38	76	32	79	47	64	54
25...	40	27	40	24	68	36	80	35	60	49	61	36	61	44	77	40	50	25	67	34	82	54	85	52	78	55	73	58
26...	32	3	38	8	64	23	70	37	63	30	52	18	48	23	61	29	41	20	60	32	64	39	73	37	79	62	78	60
27...	33	4	33	10	56	26	66	34	48	27	42	26	44	31	52	15	34	20	48	34	62	34	58	38	80	61	77	59
28...	40	4	44	9	60	26	62	13	56	25	53	19	53	18	60	16	41	16	62	15	60	28	63	19	66	46	65	42
29...	39	10	41	10	64	23	73	23	59	22	51	22	53	26	64	23	45	22	55	34	71	37	72	34	73	42	67	46
30...	40	5	44	10	65	27	72	25	57	13	54	19	54	24	69	23	45	17	62	20	58	26	63	24	81	59	65	56
31...	45	5	50	7	63	30	72	28	65	25	57	23	53	25	71	23	49	22	66	27	72	38	73	28	75	56	66	52
Mns	35.2	5.9	38.9	9.5	58.2	29.3	64.1	28.6	55.7	25.5	46.4	22.7	49.9	26.3	58.5	26.4	40.4	19.7	55.6	25.4	59.9	25.5	63.1	33.4	73.4	53.0	64.8	50.5

Date.	Texas.																									
	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	69	46	77	41	75	39	88	46	79	54	67	60	71	60	78	58	78	64	74	64	81	40	77	52	83	46	77	58
2...	65	52	72	54	76	39	84	51	74	58	68	60	73	53	77	61	77	61	74	60	72	40	77	53	63	37	75	52
3...	74	49	67	40	78	40	75	33	64	28	66	60	76	61	74	61	74	58	70	45	55	19	75	52	38	23	70	34
4...	55	42	46	34	85	38	55	28	40	30	66	59	61	53	77	53	73	62	66	41	40	18	62	46	37	23	42	33
5...	53	30	36	24	78	34	48	24	36	29	66	43	53	39	53	36	70	37	41	24	36	16	50	30	34	21	41	23
6...	42	23	34	15	74	25	36	9	34	19	44	30	39	27	40	28	37	23	31	20	33	11	42	26	36	15	36	22
7...	50	20	40	13	74	22	56	16	41	15	44	30	45	22	45	24	47	16	42	20	38	14	47	23	47	17	44	18
8...	60	22	49	18	68	25	60	18	54	29	53	43	56	29	54	30	59	23	57	29	48	24	62	27	52	27	61	24
9...	60	24	59	25	73	30	57	24	49	28	51	44	57	35	59	37	58	28	55	30	51	20	59	34	54	18	55	28
10...	56	48	61	33	68	30	75	37	57	35	54	45	61	31	56	36	62	30	58	33	58	24	64	37	59	27	61	32
11...	62	53	55	43	73	58	74	44	62	42	58	51	65	44	65	43	68	29	65	38	53	36	67	46	60	43	66	42
12...	71	59	62	47	78	59	69	46	63	54	62	54	69	53	70	54	70	50	69	50	54	42	72	58	70	49	70	54
13...	66	48	52	44	76	45	60	38	63	36	68	51	53	49	70	49	65	49	62	43	50	27	68	49	49	34	64	44
14...	59	47	53	42	75	44	58	38	44	31	54	44	52	41	58	43	51	33	48	31	44	24	51	42	40	33	46	32
15...	51	46	60	42	75	45	66	36	47	40	52	45	58	43	55	40	51	37	48	39	58	34	55	43	49	37	55	42
16...	64	48	70	41	75	53	75	40	59	46	61	52	71	51	71	49	66	45	64	46	70	33	67	51	67	49	66	50
17...	65	48	65	46	81	59	78	44	72	51	66	57	71	59	75	57	74	55	72	59	59	21	76	62	72	40	76	62
18...	64	45	50	32	79	45	66	35	56	39	66	52	62	52	66	49	70	49	65	43	58	20	64	48	57	34	63	41
19...	65	38	55	29	70	45	71	30	57	36	57	47	64	53	61	42	65	32	61	34	59	19	61	41	57	25	62	31
20...	68	43	60	30	76	42	58	38	56	38	64	53	62	54	67	50	63	47	60	43	51	30	66	50	54	37	61	44
21...	60	30	56	33	75	36	64	18	53	30	55	40	60	36	53	38	59	33	49	33	56	18	59	38	54	23	55	31
22...	75	36	62	30	78	32	73	37	62	35	60	44	65	32	66	40	65	29	63	39	68	34	68	34	65	27	68	33
23...	84	34	67	35	88	37	75	43	72	40	66	54	73	38	75	49	75	36	75	43	66	33	80	41	70	30	78	39
24...	78	38	76	40	89	38	84	37	71	40	66	51	70	40	77	47	75	41	71	47	72	33	78	45	74	31	76	47
25...	80	50	71	50	86	47	85	43	78	53	67	54	71	56	75	50	79	48	72	54	80	37	78	57	86	43	76	51
26...	79	44	62	36	86	42	80	40	64	49	71	61	73	54	76	60	74	59	67	54	66	33	74	51	63	33	69	47
27...	78	44	56	34	82	55	64	44	67	41	67	56	72	52	74	52	69	42	70	43	47	24	77	49	57	31	74	41
28...	67	29	57	25	74	38	64	25	59	34	56	44	61	40	59	40	63	34	55	34	60	17	66	39	61	24	60	37
29...	73	36	62	28	76	41	70	30	72	35	64	50	63	33	70	44	70	30	68	42	54	22	69	40	66	31	69	35
30...	69	39	62	35	45	50	73	23	55	32	65	54	65	47	68	52	66	37	58	35	62	17	68	46	57	20	59	37
31...	71	36	63	36	78	59	72	38	72	35	60	51	67	39	71	44	72	29	71	34	70	24	72	41	73	25	74	35
Mns	65.5	39.9	58.6	34.7	77.2	41.7	68.2	34.0	59.1	37.2	60.8	49.6	63.2	44.4	65.6	45.7	66.0	40.2	61.3	40.3	57.2	25.9	66.2	43.6	58.2	30.7	62.9	38.7

Climatological Data for January, 1910.

DISTRICT No. 9, COLORADO VALLEY,

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

The general weather conditions during the month were not unusual, although very low temperatures were a feature in the northern part of the district. The month opened with a rapidly falling barometer under the influence of a depression in Nevada. High temperatures became general so that the precipitation that attended was in the form of rain even at many of the high mountain stations in Colorado. Rapid thawing of the snow covering in the central part of the district resulted in a marked rise in the Grand River, and the breaking up of the ice which formed a gorge between Grand Valley and Grand Junction. Many of the county bridges were damaged or destroyed. In Nevada, as a result of the warm spell on December 31 and January 1 and the general rains, a very disastrous washout occurred on the San Pedro and Los Angeles Railroad. Practically the entire road in the Meadow Valley Wash, between Acoma and Rox, Nev., a distance of 84 miles was washed out. A number of steel bridges were carried away and the steel rails rendered worthless. The damage was apparently the severest in the vicinity of Caliente, in the center of the valley. The damage to the railroad is estimated at $2,000,000, and it will be probably two years before the road is rebuilt, and then in a different location. With the approach of high pressure and clearing weather, there were a number of sharp falls in temperature, but the severe cold did not occur until the 5th and 6th, when very low readings, even for January, were general throughout the district. At Gunnison, Colo., the minimum of −40° on the 6th has been exceeded only twice in Colorado, in January, in the period of observations, and in some instances practically the same as regards the unusual cold is true of New Mexico. The return to moderate temperatures was slow, owing to the persistency of high pressure and absence of clouds at night. Precipitation for several days attended the low pressure of the 11th and 16th; the fluctuations in temperature were not unusual. In the southern part of the district the remainder of the month was without precipitation, while in the northern part moderate snowfalls were general from the 25th almost to the close of the month.

The mean temperature of the 130 stations reporting was 31.8°, or 0.8° below the normal. By subdivisions the means and departures were: Western Wyoming, 10.2°, −4.8°; western Colorado, 18.2°, −1.9°; eastern Utah, 21.6°, −4.2°; western New Mexico, 33.4°, +0.6°; Arizona, 44.6°, +0.1°. The highest monthly mean was 57.3° at Mohawk Summit, Ariz.; the lowest, 1.7°, at Gunnison, Colo. The extremes were: 86° at Florence, Ariz., on the 21st, and −40° at Gunnison, Colo., on the 6th. Temperatures almost as low were noted on the 5th or 6th in other parts of the district: In Wyoming the lowest was −32°; in eastern Utah, −34°; in western New Mexico, −29°, and in northern Arizona, −22°.

The average precipitation for the 176 stations reporting was 1.19 inch, or 0.01 inch below the normal. By watersheds the means and departures were: Green, 1.33 inch, −0.01; Grand, 1.25 inch, −0.17; San Juan, 1.93 inch, −0.10; Little Colorado, 1.22 inch, +0.06; Gila, 1.02 inch, −0.16. The heaviest monthly amount was 5.74 inches at Rambler, Wyo., and none occurred at Deming, N. Mex., Mohawk Summit, Naco, and Quartzsite, Ariz. In the mountain districts, near the head of the Green River, the snow at the close of the month ranged from 3 to 6 feet in depth. The fall at the head of the Snake River, a tributary of the Green, was not above the January average and was less than that of January, 1909.

The sunshine was generally above the average for January, as also the relative humidity.

The total wind movement was practically normal. Gales were general in the central part of the district on the 1st.

SNOWFALL IN THE MOUNTAINS OF COLORADO.

The snowfall for January was much less than for the corresponding month a year ago. As compared with the normal, the deficiency as a whole was not so marked; in localities the deficiency was considerable, while in others there was a slight excess. The warm spell at the beginning of the month caused a general settling of the snow and some melting. With the return to normal temperature conditions, much of the snow was solidly frozen —a condition favorable to late melting. In localities exposed to the prevailing strong winds, the current fall was carried to the gulches and sheltered spots, forming numerous drifts. The depths will doubtless be materially increased by the later snowfalls, which, as a rule furnish the water for the early part of the irrigation season; the present depths, however, have a bearing on the flow of midsummer, after the snows of spring have disappeared.

HIGH WATERS IN ARIZONA DURING DECEMBER 31, 1909, AND JANUARY 1–4, 1910.

Heavy snows fell on the upper watersheds of the Verde River and in the Bradshaw and San Francisco mountain ranges on December 20, 21, and 22, 1909, followed by a prolonged cold spell continuing to December 29, 1909, the snow remaining practically unmelted. On December 30 there was a marked increase in temperature, and like conditions prevailed until January 1, 1910.

The high temperatures and heavy rains in the northern portion of the Territory during December 31, 1909, and January 1, 1910, caused a rapid melting of the snow on the western and southern slopes of the San Francisco Range and in the Bradshaw Mountains, resulting in a very rapid run-off, which produced damaging floods in Cataract and Oak creeks, in Cataract Canyon, adjoining the Grand Canyon, and in the upper Verde River.

In the Oak Creek section, between Sedona and Cornville, the water rose 6 feet in 3 hours on January 1. In Cataract Creek and in Cataract Canyon a wall of water 20 feet in depth washed away 4 large reservoirs, flooding the little Indian village of Supai, Ariz., near the entrance to the Grand Canyon, to tremendous depths, destroying many houses, damaging farm lands, and drowning many sheep and cattle on the early morning of January 2, 1910.

It is the annual custom of the Havasupai Indians in this little village to seek higher ground on December 15, in the anticipation of heavy floods for the coming winter. But for this precaution, many lives would have been lost. Mr. Charles E. Coe, Cooperative Observer, narrowly escaped from drowning. The instruments of the Weather Bureau were destroyed. Two Indians are known to have perished. No loss of life is reported from any other locality.

In the upper Verde drainage area, between Seligman, Ashfork, Jerome, and Camp Verde, the raging waters destroyed several storage dams and reservoirs belonging to the sheep and cattle raisers.

The total rainfall at Jerome, on the headwaters of the Verde River, during the 24 hours ending at 5 p. m. of January 1, 1910, was 1.93 inch. The flood waters from the Verde River on December 31, 1909, and January 1, 1910, reached the lower Verde and Salt rivers on the morning of January 2, 1910. The water rose rapidly in the Salt River at Tempe, Ariz., during January 2 and 3, attaining a reading of 8.4 feet on the Tempe River gage at 8 a. m., of January 3. During the afternoon, evening, and night of January 3 the water in the Salt River receded rapidly, and by 8 a. m. of January 4 had reached a gage reading 4.4 feet.

The run-off in the upper Salt River was slow and steady, filling the 10-mile Roosevelt Reservoir to an additional depth of about 6 feet. The heavy rains of December 31, 1909, and January 1, 1910, caused a number of washouts along the roadbeds of the Atchison, Topeka and Santa Fe Railway between Ashfork and Kingman, Ariz.

On January 2, 1910, flood warnings were issued from Phoenix and wired to the observer, Weather Bureau, and the Reclamation Service at Yuma, Ariz. Warnings were also sent to all of the station agents along the main line of the Southern Pacific Company advising them of a 5-foot rise in the lower Gila River, between Phoenix and Yuma.

The run-off in the upper Gila River was comparatively light. The Gila and Salt rivers near Phoenix were unfordable from January 2 to January 10.

ROOSEVELT DAM.

During the floods in central Arizona in the early part of the month the water in the Roosevelt Dam rose 6.2 feet. On January 1, 1910, the water level was 101.8 feet; on January 5, 108.0 feet. The run-off in the upper Salt drainage basin was light in comparison with that of the Verde River drainage area, below the Roosevelt Dam.

The construction of the Roosevelt Dam is proceeding with despatch, it now being 167 feet high at the lowest point, or 52 feet above the present water level. Construction is being carried on at the rate of about 10 feet per month, and every foot of construction means a much larger increase in storage capacity over each preceding foot. The present capacity at the height of 167 feet is 524,000 acre-feet, or considerably more than 3½ times the amount now in storage, so that it will require a rapid run-off and heavy floods of torrential character to fill the basin even to the point of its present capacity.

By the 1st of March, or before, the dam should be 175 feet high in the lowest place, and should have a storage capacity of 670,000 acre-feet, or nearly 5 times the quantity of water now in storage. Judging from the very light snow covering in the various drainage basins, it is not expected that there will be any flood that will catch up with construction, and top the dam or interfere with the further laying of masonry, though such a thing would be possible, perhaps, if a flood should come within several weeks and come large enough, say 150,000 to 200,000 second-feet, as it has been known to do twice during the period of its construction. But even then the rise would have to last for at least a couple of days at a very high mark.

On January 31 there was an ample supply of water to insure the coming season's crops, and within a month or more it is not only quite certain that there will be another moderate run-off; so that in its then state of construction the Government can defy any coming floods to either injure anything or interfere with operations.

The spillway on the north side of the Roosevelt Dam is well advanced, and work on the south side spillway is proceeding as fast as possible.

TABLE 1.—*Climatological data for January, 1910. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Daniel	Uinta	6,740	11	8.7	− 4.8	40	23†	−30	3	52	0.40	− 0.54	0.40	4.0	1	12	15	4	nw.	J. M. Van Dervort.
Dixon	Carbon																			Chas. Spillman.
Eden	Sweetwater	6,577	2	6.4		38	22	−32	5†	35	0.12		0.06	1.2	3	14	11	6	n.	Eden Valley L. and I. Co.
Green River	do	6,083	5	15.0		49	24	−15	13	36	0.12	− 0.37	0.06	2.0	4	21	9	1	w.	Geo. H. Maxon.
Kendall	Fremont	7,630																		Art. Doyle.
Pinedale	do	7,167	4	11.0		40	23†	−24	3	44	0.27		0.13	5.8	5	14	12	5	nw.	U. S. Forest Service.
Rambler	Carbon	9,232									5.74		1.50	55.0	11	6	17	8	w.	J. C. Fothergill.
Colorado.																				
Ashcroft	Pitkin	9,483	8	16.6		48	23	−28	6	49	1.26		0.45	18.0	10					Dan McArthur.
Breckenridge	Summit	9,536	20	14.8	− 1.0	44	24	−28	6	50	0.81	− 0.99	0.35	12.3	6	3	13	15	nw.	Mrs. J. G. Thompson.
Cascade‖	San Juan	8,900	4								4.00		1.19	38.2	6	18	4	9	e.	San Juan P. and W. Co.
Chromo	Archuleta	7,500	4	19.7		52	22	−27	5	58	0.65		0.19	10.0	5	24	1	6	sw.	Lawrence Nolan.
Cochetopa	Saguache	9,088									0.55		0.20	8.2	5	10	15	6	sw.	Bessie McDonough.
Collbran	Mesa	6,000	17	23.2		53	24	−13	6	30	1.14	+ 0.11	0.39	24.0	8	11	9	11	sw.	A. A. Wood.
Columbine	Routt	8,766									2.80		0.55	45.4	14	12	11	8	sw.	Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925									1.17		0.49	12.2	7	12	7	12	s.	Geo. W. Wade.
Corona	Grand	11,660	3	8.8		31	23†	−27	6	26	3.62		0.68	38.9	13				w.	U. S. Weather Bureau.
Crawford (near)	Montrose	6,600		22.1		48	24	−16	6	31	0.51		0.17	13.0	7	15	5	11		C. W. Roe.
Crested Butte	Gunnison	8,867									1.00		0.30	10.0	4	23	2	6		Charles L. Ross.
De Beque	Mesa	4,935		18.4[d]		52[d]	25	−25[d]	6	43[d]										C. M. Paine.
Delta	Delta	4,965	19	25.0	+ 0.4	52	24	−11	8	33	0.65	+ 0.16	0.22	6.0	6	14	13	4		E. M. Getts.
Dillon	Summit	8,800	1																	Harry T. Hamilton.
Dolores	Montezuma	6,500	1	26.4		48	2†	−12	8	52	1.87		0.37	19.0	6	16	6	9	n.	Geo. R. Simmons, jr.
Durango	La Plata	6,534	17	24.0	− 0.5	52	24	−14	6	37	1.53	+ 0.25	0.24	4.2	9	14	9	8	nw.	U. S. Weather Bureau.
Eagle	Eagle	6,598	5	16.8		44	23	−29	6	46	0.61		0.12	9.0	7	16	9	6	w.	J. M. Witteman.
Eureka‖	San Juan	10,000	3								2.88		0.97	33.0	11					San Juan P. & W. Co.
Fraser	Grand			8.5		45	25	−30	7†	52	0.70		0.20	8.0	5	8	13	10	ne.	L. D. C. Gaskill.
Fruita	Mesa	4,510	11	18.2	− 4.5	51	2	−20	6	36	0.81	+ 0.08	0.17	3.9	8	18	5	8		J. B. Willees.
Gladstone ‖	San Juan	10,400	3								2.58		1.20	29.1	6	7	15	9		San Juan P. & W. Co.
Glenwood Springs (near)	Garfield	5,823	12	19.8	− 2.8	48	1†	− 7	9	41	1.01	− 0.04	0.25	14.0	11	4	13	14	nw.	E. A. O'Neil.
Grand Junction	Mesa	4,608	19	22.8	− 1.9	52	1	−10	8	32	0.38	− 0.23	0.18	7.5	7	11	10	10	nw.	U. S. Weather Bureau.
Grandlake	Grand	8,152	2								0.79		0.55	8.5	2	27	3	1		Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	18	21.8	− 2.6	54	24	−16	6	41	1.57	+ 0.75	0.54	15.0	9	12	6	13		David Evans.
Gunnison	Gunnison	7,670	17	1.7	− 5.9	40	1	−40	6	45	0.50	− 0.24	0.14	4.9	5	17	7	7	sw.	Clarence Adams.
Hayden	Routt	6,337	1																	C. W. Harkness.
Hesperus	La Plata	8,870	11																	John S. Spear.
Horsefly	Montrose	8,700									1.03		0.30	12.5	7	11	6	14	sw.	L. J. Finch.
Ironton	Ouray	10,000									2.11		0.45	30.6	10	12	5	14	sw.	P. H. Foley.
Kremmling (near)	Grand	7,337	2	16.0		49	24	−26	13	39	1.05		0.33	10.0	8	11	10	10		H. A. Howe.
Lake City	Hinsdale	8,686	5	15.6		49	24	−26	6	48	0.73		0.24	11.0	5	12	4	13	s.	J. F. Maurer.
Lay	Routt	6,190	16	15.8	− 2.4	52	24	−25	5†	49	1.56	+ 0.69	0.65	18.0	8	14	3	14		A. G. Wallihan.
Leal	Grand	8,750																		L. J. Wade.
Lujane	Montrose	6,620	4	25.4		52	24	− 9	9	33	0.28		0.09	3.2	5	17	10	4	se.	U. S. Reclamation Service.
Mancos	Montezuma	6,960	11	26.4	− 0.5	55	24	−16	5	38	1.18	− 0.07	0.41	9.6	7	16	7	8	sw.	B. M. Krumpanitsky.
Marble	Gunnison	7,951	1	20.7		51	23	−26	6	48	3.27		1.57	27.0	14	10	10	11	ne.	Homer Harrington.
Marshall Pass	Saguache	10,846	7								1.17		0.39	25.0	7	12	10	9	w.	William D. Lillard.
Meeker	Rio Blanco	6,182	18	20.0	− 0.1	50	24	−21	6	48	0.90	− 0.14	0.55	17.0	6	11	8	12		T. Baker.
Montrose (near)	Montrose	5,811	21	24.5	+ 1.3	52	24	−12	6	35	0.26	− 0.42	0.16	0.8	2	12	13	6		R. Butterfield.
Nast	Pitkin	7,953		16.0		42	23	−25	6	42	1.65		0.52	16.2	5	16	7	8	w.	Arthur Hanthorn.
Pagoda	Routt	6,500	19	19.8[b]	− 0.2	52[b]	24	−17[b]	5	44[b]										Shaw Brothers.
Pagosa Springs	Archuleta	7,108	3	16.7		51	24	−31	6	53	1.68		0.33	10.5	8	13	10	8	sw.	E. T. Walker.
Paonia	Delta	5,694	15	25.8		56	24	−10	6	34	0.45	− 0.45	0.25	5.5	4	9	13	9	sw.	J. M. Underwood.
Parshall	Grand		1																	F. A. Field.
Pitkin	Gunnison	9,500	1								1.15		0.45	15.5	5	17	5	9	s.	Mrs. Maggie Cammann.
Rangely	Rio Blanco	5,050	11	8.9	− 5.4	47	1	−30	6	61	0.75	+ 0.28	0.41	13.8	7	9	6	16	w.	Mrs. C. P. Hill.
Redcliff	Eagle	8,695	15								1.25	− 0.57	0.50	24.0	7	12	4	15		Dorothea Greiner.
Rico	Dolores	8,824	8								2.66		0.95	22.2	8	11	13	7	sw.	Clinton B. Smith.
River Portal	Montrose	6,570	4	19.8[c]		50[c]	23	−14[c]	5	35[c]										U. S. Reclamation Service.
Sapinero	Gunnison	8,125	8	11.9		45	24	−20	6	40	1.80		0.51	19.5	12	13	5	13	w.	W.F. Irving.
Shoshone	Garfield	6,110									1.13		0.23	20.8	13	8	7	16		Central Colo. Power Co.
Silt	do	5,441	13																	W. S. Park.
Silverton (1)	San Juan	9,285	6	17.2		49	23	−34	6	59	5.43		1.56	52.0	11	18	0	13	sw.	A. P. Root, jr.
Silverton (near) ‖	do	9,400	3	18.1[c]		45[c]	22	−17[c]	7	50[c]	4.45		1.20	42.5	8	14	9	8	sw.	San Juan P. & W. Co.
Spruce Lodge	Grand	9,600	2								1.96		0.38	25.0	8					H. J. Wills.
Steamboat Springs	Routt	6,683	7	14.6		57	24	−28	13	45	1.38		0.34	14.5	6	22	2	7		M. E. Houston.
Tacoma ‖	La Plata	7,300	3	20.6		46	23	−24	6	38	2.16		0.58	9.5	8	17	5	9	s.	San Juan P. & W. Co.
Terminal Dam ‖	do	8,300	3								3.75		0.84	31.9	9	19	5	7	n.	Do.
Uncompahgre Plateau	Montrose	8,400									2.18		0.98	45.5	7	8	15	8	sw.	Martin Esser.
Whitepine	Gunnison	9,500	10	12.6		43	24	−32	6	44	1.93		0.80	30.0	6	15	4	12	s.	C. E. Macy.
Yampa	Routt	8,000	1								0.63		0.13	8.7	9	15	10	6	s.	Percy A. Hughes.
Utah.																				
Baker	San Juan	7,560	1								1.97		1.50	6.0	4	26	3	2	s.	Maude A. Palmer.
Basin	Grand	9,500	1								2.74		0.80	31.0	10	7	16	8	sw.	E. H. Wolf.
Castle Dale	Emery	5,500	11	7.4		42	2	32	8	53	0.92		0.42		3	12	19	0		James Jeffs.
Emery	do	6,260	10	21.8		53	28	−10	6	44	0.30		0.30	3.0	1	9	2	20	n.	H. C. Wickman.
Escalante	Garfield	5,700	10	22.2		53	24	−17	6	39	2.45		2.20		2	21[c]	0	7[c]		Geo. H. Barney.
Fort Duchesne	Uinta	5,000	22	6.9	− 4.9	36	2	−34	6	41	0.62	+ 0.24	0.40	5.0	3	19	6	6	nw.	B. F. Mudd.
Grayson	San Juan	5,750	6	25.8		49	21	−10	5	34	0.20		0.10	T.	2	19	5	7	s.	Joseph A. Lyman.
Green River	Emery	4,080	13	19.2	− 5.8	44	24	−17	6	34	0.24	+ 0.05	0.17		2	20	4	7		B. F. Miller.
Hanksville	Wayne																			F. G. Weber.
Hite	Garfield	3,000	11	33.4		54	24	12	6†	29	0.97		0.62	2.0	4	18	8	5		John P. Hite.
La Sal	San Juan	7,000	10	24.7		54	23	−13	5†	34	0.53		0.38	T.	2	16	3	12		Gertrude W. Carpenter.
Loa	Wayne	7,000	18	16.8	− 4.4	47	23†	−27	5	55	0.80	+ 0.33	0.30		3					Michael Hansen.
Mill Canyon	Washington	8,400									2.60		0.60	20.0	5					J. A. Gardner.
Moab	Grand	4,000	21	28.0	− 1.5	51	1†	− 3	6	27	0.71	+ 0.06	0.45	4.0	4	11	12	8		Henry Crouse.
Monticello	San Juan		2																	D. B. Perkins.
Orderville	Kane																			F. A. Porter.
Price	Carbon	5,557																		C. A. Guiwits.
Ranch	Kane	6,700	9	22.4		54	23	−17	6	46	2.52		1.10		5	21	5	5	w.	J. W. Seaman.
Saint George	Washington	2,880	29	37.2	0.0	66	24	12	6	40	0.49	− 0.51	0.30	1.0	4	11[c]	15[c]	2[c]		Joseph T. Atkin.
Scofield	Carbon	7,625	2	19.4		56	23	−27	17	58	3.76		1.10	34.0	8	15	5	11		O. E. Jorgensen.
Springdale	Washington		3	41.0		70	30	13	6	33	1.59		1.34		3	7	7	17		Wm. W. Flanigan.
Strawberry	Wasatch		4	20.4		47	23	−16	5	36	2.95		0.50	29.5	10	6	17	8		U. S. Reclamation Service.
Sunnyside	Carbon	5,280	2								0.90		0.60	9.0	4					Henry Cullum.
Teasdale	Wayne	7,000	2																	Josiah Shurtz.
Theodore	Wasatch	5,507	5	9.2		42	16	−26	6	55	0.78		0.42	7.8	7	9	13	9		M. M. Smith.
Tropic	Garfield	7,000	13	22.9	− 4.4	51	24	−14	5	46	2.40	+ 1.57	0.90	24.0	7	16	8	7	nw.	E. P. Bolton.

TABLE 1.—*Climatological data for January, 1910. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Cont'd.																				
Vernal	Uinta	5,050	15	10.4	− 8.5	40	1	−19	6	27	.....	.....	.....	.....	...	17	4	10	sw.	Joab Collier.
New Mexico.																				
Alma	Socorro	5,500	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	M. A. Balke.
Aragon	do	5,856	3	29.6	.....	57	24†	−14	6	43	2.30	.....	1.05	2.0	6	18	10	3	sw.	John R. Milligan.
Blackrock	McKinley	6,500	2	31.0	.....	56	23	−24	6	45	1.40	.....	0.80	3.5	8	15	6	10	w.	Wm. J. Oliver.
Bloomfield	San Juan	5,500	15	29.0	+ 0.7	59	24	−10	6	41	0.17	− 0.35	0.10	0.9	3	18	8	5	sw.	Fred Le Clerc.
Cambray	Luna	4,215	11	.....	.....	.....	.....	.....	.....	.....	0.20	− 0.18	0.20	0.0	1	16	10	5	.....	Southern Pacific Co.
Columbus	do	4,054	.....	.....	.....	71	1†	6	6	...	0.14	.....	0.14	0.0	1	20	5	6	nw.	El Paso & Southwest. R.R.
Deming	do	4,333	33	43.4	.....	71	2	16	6	39	0.00	− 0.54	0.00	0.0	0	10	8	13	w.	Southern Pacific Co.
Dulce	Rio Arriba	6,767	12	18.8	− 1.4	50	24	−29	6	45	0.88	− 0.34	0.33	5.4	7	16	9	6	w.	John M. Commons.
Fort Bayard	Grant	6,152	35	42.6	+ 4.0	69	1	8	6†	42	0.64	− 0.17	0.56	1.5	3	25	6	0	w.	U. S. Gen'l. Hospital.
Fort Wingate	McKinley	6,997	46	30.8	+ 0.1	58	23†	−10	6	40	0.29	− 0.68	0.10	1.8	4	18	10	3	sw.	Post Hospital.
Fruitland	San Juan	4,800	17	30.0	− 0.1	61	24	− 7	5	34	0.20	+ 0.01	0.24	3.5	3	19	5	7	nw.	Cyril James Collyer.
Gage	Luna	4,486	3	.....	.....	.....	.....	.....	.....	.....	0.23	− 0.07	0.22	0.1	2	26	1	4	nw.	Southern Pacific Co.
Gila (near)	Grant	4,470	11	41.7	+ 0.1	77	24	2	6†	58	0.32	− 0.75	0.16	.....	3	.....	.....	.....	.....	Miss Cosella Clark.
Hachita	do	4,504	.....	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.15	T.	1	16	12	3	nw.	El Paso & Southwest. R.R.
Haynes	Rio Arriba	6,600	.....	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.21	4.2	5	23	6	2	nw.	Dr. John Roger Haynes.
Hermanas	Luna	4,451	.....	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.21	0.0	1	.....	.....	.....	.....	El Paso & Southwest. R.R.
Lordsburg	Grant	4,245	10	43.5	+ 0.8	69	2	7	6	49	0.48	− 0.17	0.40	1.0	2	20	8	3	sw.	Southern Pacific Co.
Luna (near)	Socorro	7,300	5	32.0	.....	66	24	−12	6	42	1.83	.....	1.03	1.5	4	15	13	2	s.	C. B. Martin.
Manuelito	McKinley	6,252	5	28.9	.....	56	23†	−21	6	47	0.28	.....	0.09	2.0	5	20	3	8	se.	Mrs. H. F. Irick.
Mimbres	Grant	5,007	5	.....	.....	.....	.....	7	5	...	0.29	.....	0.23	.....	2	20	7	4	nw.	Chas. Dennis.
Pratt	do	4,415	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	24	7	0	w.	El Paso & Southwest. R.R.
Putnam	San Juan	6,200	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	0.20	2.4	5	21	6	4	w.	Richard Wetherill.
Redrock	Grant	4,150	5	.....	.....	.....	.....	.....	.....	.....	0.36	.....	0.34	.....	2	16	13	2	.....	Robert N. Woods.
Rodeo	do	4,118	.....	.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.18	T.	1	22	5	4	.....	El Paso & Southwest. R.R.
Rosa	Rio Arriba	6,000	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	B. A. Candelaria.
Arizona.																				
Allaires Ranch	Cochise	4,184	14	.....	.....	.....	.....	.....	.....	.....	0.55	− 0.27	0.39	0.1	4	20	5	6	nw.	Thos. Allaire.
Arizona Canal Dam	Maricopa	1,372	15	53.3	− 0.6	76	31	25	6	37	1.30	+ 0.41	0.68	0.0	5	16	5	10	ne.	U. S. Reclamation Service.
Aztec	Yuma	492	12	50.5	− 3.9	80	22	23	6†	46	0.59	+ 0.26	0.31	0.0	3	19	2	10	n.	Southern Pacific Co.
Benson	Cochise	3,523	28	48.1	+ 0.6	77	22	12	5†	49	0.55	+ 0.02	0.30	T.	4	14	0	17	e.	Southern Pacific Co.
Bisbee	do	5,500	20	46.6	+ 1.4	72	24	13	6	31	0.26	− 0.74	0.15	0.5	3	16	11	4	e.	Rev. J. G. Pritchard.
Bonita	Graham	4,916	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	A. Johnson & Co.
Bowie	Cochise	3,756	33	46.4	+ 3.2	79	24	10	7	41	0.77	− 0.30	0.65	0.0	2	20	0	11	w.	Southern Pacific Co.
Buckeye	Maricopa	980	17	49.4	− 3.8	79	24	19	6	48	0.72	− 0.18	0.50	0.0	3	23	5	3	e.	H. E. Kell.
Canille	Santa Cruz	5,225	1	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.24	T.	7	15	12	4	sw.	R. A. Rodgers.
Casa Grande	Pinal	1,396	28	54.4	+ 2.8	81	21	19	6	36	0.61	− 0.20	0.38	0.0	4	18	5	8	.....	Southern Pacific Co.
Cave Creek	Maricopa	1,522	3	50.0	.....	77	23†	21	6†	49	1.42	.....	0.55	0.0	4	21	4	6	.....	E. A. Howard
Chin Lee	Apache	6,000	2	29.6	.....	60	24	−14	6	42	0.37	.....	0.16	3.5	5	22	3	6	n.	Fr. L. Ostermann, O. F. M.
Chlarsons Mill	Graham	8,000	3	30.8	.....	56	31	0	6	38	3.86	.....	1.20	12.0	8	16	5	10	.....	H. R. Chlarson.
Clifton	Graham	3,584	19	46.8	.....	67	24	19	7	34	0.60	− 0.50	0.32	T.	2	23	7	1	.....	P. Reisinger.
Cline	Gila	2,300	10	46.6	− 0.1	68	12†	18	6	41	1.57	+ 0.32	0.57	0.0	6	14	10	7	sw.	W. M. Clanton.
Cochise	Cochise	4,219	11	42.6	− 2.7	70	1	5	6	48	0.75	+ 0.06	0.70	0.5	2	21	6	4	se.	Southern Pacific Co.
Columbia	Yavapai	1,900	11	53.0	+ 0.8	82	31	22	5	40	0.83	− 0.78	0.65	7.0	5	15	8	8	se.	M. J. Nolan.
Congress	do	3,688	14	48.6	− 2.0	72	20†	20	5	30	1.53	− 0.21	1.08	0.0	3	16	9	6	sw.	Congress Mine.
Courtland	Cochise	4,543	1	.....	.....	.....	.....	.....	.....	.....	0.52	.....	0.52	0.0	1	21	1	9	sw.	El Paso & Southwest. R.R.
Dos Cabezos	do	5,250	2	42.7	.....	72	25	2	6	41	0.93	.....	0.44	2.0	3	20	7	4	e.	N. Erickson.
Douglas	do	3,930	7	47.9	.....	81	24	9	7	55	0.20	.....	0.13	0.0	4	19	11	1	.....	Dr. F. T. Wright.
Dudleyville	Pinal	2,204	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	G. F. Cook.
Fairbank	Cochise	3,862	1	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.30	0.0	1	21	3	7	.....	El Paso & Southwest. R.R.
Flagstaff (1)	Coconino	6,907	18	26.6	− 0.1	59	22	−22	5	50	3.17	+ 1.11	2.08	8.1	8	15	3	13	sw.	U. S. Weather Bureau.
Florence	Pinal	1,504	11	53.6	+ 3.4	86	21	22	4	43	0.67	− 0.18	0.40	0.0	3	21	0	10	w.	Pacific & Eastern R. R.
Fort Apache	Navajo	5,200	39	38.8	+ 3.1	71	23	− 4	6	49	2.09	+ 0.82	1.30	2.0	7	20	5	6	w.	Post Hospital.
Fort Huachuca	Cochise	5,100	25	48.6	+ 4.3	77	23	13	6	37	0.60	− 0.60	0.40	T.	2	26	1	4	se.	Post Hospital.
Fort Mohave	Mohave	604	39	54.4	+ 3.2	75	31	28	4	32	0.44	− 0.23	0.22	0.0	4	18	9	4	.....	A. F. Duclos.
Gilabend	Maricopa	737	19	52.9	− 0.5	82	23	22	6	48	0.75	− 0.01	0.45	0.0	2	16	8	7	.....	Southern Pacific Co.
Globe	Gila	3,525	9	45.3	.....	75	24	16	6	40	1.45	.....	0.73	0.0	7	12	14	5	se.	Dr. B. G. Fox.
Grand Canyon	Coconino	6,866	7	25.9	.....	58	22	−22	5	50	1.49	.....	0.45	11.5	8	18	4	9	sw.	Grand Canyon Ry.
Greer	Apache	9,200	6	.....	.....	.....	.....	.....	.....	.....	1.33	.....	0.50	13.5	8	18	5	8	.....	Mrs. M. Butler.
Hereford	Cochise	4,180	1	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.13	0.0	3	24	0	7	.....	El Paso & Southwest. R.R.
Holbrook	Navajo	5,069	21	32.7	+ 0.2	62	25	−14	6	39	1.12	+ 0.37	0.33	4.5	5	22	1	8	.....	T. Larson.
Intake	Gila	2,230	3	.....	.....	.....	.....	.....	.....	.....	1.60	.....	0.50	0.0	5	24	2	5	sw.	A. J. Robinson.
Jerome	Yavapai	4,743	13	42.6	0.0	65	22	13	5	30	4.89	+ 3.12	1.93	8.0	6	19	4	8	w.	Dr. L. A. Hawkins.
Keams Canyon	Navajo	.....	6	29.8	.....	55	24	−17	6	41	1.30	.....	0.70	6.0	3	17	7	7	se.	L. R. Ballard.
Kingman	Mohave	3,336	8	41.0	.....	74	22	14	6	38	1.62	.....	1.07	3.0	4	10	16	5	sw.	J. R. Gooding.
Lewis Springs	Cochise	4,029	1	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.12	T.	2	13	12	6	.....	El Paso & Southwest. R.R.
Maricopa	Pinal	1,186	33	54.7	+ 3.2	81	30	27	8	44	0.31	− 0.38	0.14	0.0	4	16	6	9	w.	Southern Pacific Co.
Mesa	Maricopa	1,244	14	51.5	+ 0.1	79	20	22	6	47	1.03	− 0.02	0.44	0.0	4	19	5	7	sw.	C. L. Diehl.
Mohawk Summit	Yuma	538	9	57.3	.....	75	16†	38	1†	33	0.00	.....	0.00	0.0	0	21	10	0	e.	Southern Pacific Co.
Naco	Cochise	4,579	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	29	1	1	sw.	El Paso & Southwest. R.R.
Natural Bridge	Gila	4,990	21	.....	.....	.....	.....	.....	.....	.....	3.36	+ 0.83	1.20	10.0	7	20	4	7	sw.	D. G. Goodfellow.
Nogales	Santa Cruz	3,830	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	Wallace & Summerhayes.
Oracle	Pinal	4,500	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	W. H. Winters.
Osborn	Cochise	4,676	1	.....	.....	.....	.....	.....	.....	.....	0.08	.....	0.08	0.0	1	19	9	3	se.	El Paso & Southwest. R.R.
Paradise	Cochise	3,940	4	42.6	.....	74	23†	2	6	46	0.15	.....	0.15	0.0	1	10	13	8	nw.	J. C. Hancock.
Parker	Yuma	345	13	49.8	− 0.8	81	30†	21	6†	48	0.96	+ 0.15	0.87	0.0	3	25	2	4	.....	Dr. H. V. King.
Payson	Gila	5,500	1	40.5	.....	71	21†	− 8	5	50	2.49	.....	0.80	8.0	7	14	5	12	s.	M. McDonald.
Phoenix (1)	Maricopa	1,108	15	51.2	+ 1.2	77	21	23	6	43	0.50	− 0.67	0.28	0.0	5	17	9	5	e.	U. S. Weather Bureau.
Pinal Ranch	Pinal	4,520	15	.....	.....	.....	.....	.....	.....	.....	2.67	− 0.34	1.16	1.7	6	15	8	8	.....	Irion & Craig.
Pinto	Apache	5,660	5	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.35	15.0	7	19	4	8	sw.	Mrs. C. F. Henning.
Prescott	Yavapai	5,320	45	35.2	+ 0.1	70	23	− 6	6	42	1.86	+ 0.28	0.86	7.0	5	23	1	7	.....	Dr. J. W. Flinn.
Quartzsite	Yuma	800	2	48.0	.....	73	24	20	8	39	0.00	.....	0.00	0.0	0	23	7	1	n.	W. E. Scott.
Redrock	Pinal	1,856	2	52.6	.....	80	23	23	7	41	0.41	.....	0.15	0.0	5	13	13	5	w.	W. J. Crowell.
Roosevelt	Gila	2,175	6	48.0	.....	68	28†	24	6	34	2.30	.....	1.20	T.	5	19	7	5	.....	W. A. Schoenfeld.
Sacaton	Pinal	.....	2	51.0	.....	81	31	17	6	53	0.21	.....	0.15	0.0	3	18	9	4	.....	M. F. Gilman.
Saint Johns	Apache	5,650	5	33.2	.....	68	25	−20	6	48	1.58	.....	0.63	5.5	3	17	4	10	sw.	A. Shreeve.
Saint Michaels	do	6,950	22	27.2	+ 1.5	55	25	−15	6	41	0.74	− 0.16	0.40	2.0	6	19	6	6	sw.	Rev. A. Weber, O. F. M.
Salome	Yuma	1,875	3	41.6	.....	73	31	19	8	42	0.45	.....	0.28	0.0	3	19	5	7	n.	Mrs. M. B. Swartz.
San Carlos	Gila	2,456	28	45.4	+ 2.2	74	24	16	7	47	1.06	− 0.26	0.26	0.0	7	19	2	10	w.	F. S. Thomas.
San Simon	Cochise	3,609	26	47.0	+ 2.3	71	28	13	5	42	0.34	− 0.07	0.14	0.0	3	18	5	8	w.	Southern Pacific Co.
Seligman	Yavapai	5,219	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	C. W. Dougherty.
Sentinel	Maricopa	685	11	50.6	− 4.1	78	23†	25	7	44	0.06	− 0.22	0.06	0.0	1	21	5	5	.....	Southern Pacific Co.
Showlow	Navajo	6,300	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	G. Woolford.
Silverbell	Pima	2,650	4	53.2	.....	79	23	22	5	25	0.76	.....	0.52	0.0	5	20	5	6	w.	Imperial Copper Co.
Supai	Coconino	3,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	C. E. Coe.
Tempe	Maricopa	1,165	6	50.2	.....	76	21	23	7	44	0.84	.....	0.40	0.0	5	21	3	7	nw.	F. H. Simmons.

TABLE 1.—*Climatological data for January, 1910. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Cont'd.																				
Thatcher	Graham	2,800	7	44.2	.....	71	2	8	7	47	0.30	.....	0.30	0.0	1	16	14	1	nw.	Prof. J. H. Larson.
Tombstone	Cochise	4,550	11	48.2	+ 0.9	79	24	12	5	37	0.18	− 0.66	0.18	0.0	1	15	12	4	.....	F. N. Walcott.
Truxton	Mohave	4,197																		E. B. Atkinson.
Tuba	Coconino	4,500	12	30.0	− 3.0	60	23	− 6	6	29	0.25	− 0.35	0.12	1.0	3	8	15	8	ne.	G. H. Kraus.
Tucson	Pima	2,390	30	50.0	+ 0.2	78	23†	13	6	46	1.02	+ 0.24	0.51	0.0	3	4	19	8	nw.	University of Arizona.
Vail	....do	3,421	11	47.1	− 6.7	74	23	12	6	46	0.93	+ 0.28	0.40	T.	4	17	8	6	.....	Southern Pacific Co.
Walnut Grove	Yavapai	3,649	18								1.61	+ 0.40	0.57	6.0	5	14	9	8	.....	J. O. Carter.
Wickenburg	Maricopa	2,072																		Santa Fe, Presc't & Phoenix
Willcox	Cochise	4,164	28	41.4	− 0.6	68	31	8	6	46	0.83	+ 0.03	0.45	2.0	4	16	5	10	sw.	Southern Pacific Co.
Williams	Coconino	6,750	8	34.0	.....	65	23	−10	5	46	2.83	.....	1.20	14.0	5	13	6	12	.....	E. J. Nordyke.
Winslow	Navajo	4,853	5	32.8	.....	70	24	− 3	6	49	1.66	.....	0.85	3.0	6	20	2	9	.....	J. F. Bauer.
Yarnell	Yavapai	4,700	12								1.54	− 0.26	0.56	5.0	3	14	9	8	n.	E. L. Bartholomew.
Yuma	Yuma	141	29	52.9	− 1.8	81	31	25	4	38	0.02	− 0.41	0.02	0.0	1	26	4	1	n.	U. S. Weather Bureau.
Nevada.																				
Las Vegas	Clark	.....	.....																	Salt Lake Route.
Logan	....do	.....	.....	42.1	.....	70	24	16	6	39	0.56	.....	0.21	0.0	3	19	10	2	n.	Ray M. Filcher.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 9, Colorado Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Daniel	Green	.40								T.	T.	T.				T.	T.	T.		T.			T.			T.		T.	T.				0.40
Dixon	Snake																																
Eden	Green	.01	T.	.05	T.							T.	T.			T.	.06									T.							0.12
Green River	do		.09	.01	T.													.03									T.		.02				0.12
Kendall	do																																
Pinedale	do	.04	.13							T.	.01					.04	.05																0.27
Rambler	Snake		.30	.50	.40	T.		T.	.40	.50		1.50		T.			.25	.75			T.		T.			1.01		.05	.08				5.74
Willow Creek Cabin	Green																																
Colorado.																																	
Ashcroft	Grand	.09	T.	.15	.06							.09	.05				.12	.45								.02	T.	.11		.12			1.26
Breckenridge	do	T.	T.	T.	.05	T.											T.	.35								.20	.06	.09		.06			0.81
Cascade	San Juan	1.19			1.12								.14	.22		T.		.70	.63							T.		T.					4.00
Chromo	do		.12	.05							.19				.16	.13																	0.65
Cochetopa	Gunnison		.13	.01	.20		T.						T.					.14								T.		.07					0.55
Collbran	Grand	.02	.05	.15	.39			.14	.04				.30					.05								T.		T.					1.14
Columbine	Yampa	.30	.15	.03				.15				.05	.06			.15	.03	.33					.10			.55	.40	.15	.35				2.80
Columbine Ranch	Gunnison	.49	.22	.20	.23			T.	T.			.01	.01					.01															1.17
Corona	Grand	.10	.05		.14	.20							.06	.28				.64	.34								.68	.66	.10	.30	.06		3.62
Crawford	Gunnison			.05	.17	.05		.05	.03				.05					.10															0.51
Crested Butte	do	.20	.30	.30	T.																			T.		.20	T.			T.			1.00
De Beque	Grand																																
Delta	Gunnison	.04		.10		.08	.22	.13				.08					T.									T.							0.65
Dillon	Grand																																
Dolores	Dolores	.35	.20									.34	.26				.35	.37															1.87
Durango	San Juan	.18	.19	.35								.14	T.	.08	.16	.38	.04									.01							1.53
Eagle	Grand	.10		.12	.07	T.						.07	.12					.06								.07							0.61
Eureka	San Juan	.39	.23	.18		.19	.09					.09			.08		.97	.43										.13	.10				2.88
Fraser	Grand	.10		T.	.10				T.				.10					T.									.20	T.		.20			0.70
Fruita	do	.17	.16	.16	.03			.03				.06	.03				.17	T.								T.		T.		T.			0.81
Gladstone	San Juan								.07				.06			.10	1.20	1.11								.04							2.58
Glenwood Springs	Grand	.25	.15		.05	.04	.04	.08	T.	.04	.13	T.	.05		.10	.08													T.	T.			1.01
Grand Junction	do	T.	.02	.18	.08	.03		.04				.02	T.				T.	.01								T.							0.38
Grandlake	do										T.		T.				.55										.24			T.			0.79
Grand Valley	do	.54	.05	.07	.38			.08				.16	.20			T.	.06	.02								T.							1.57
Gunnison	Gunnison	.15	T.	.07				T.				.02					.12	.14															0.50
Horsefly	do	T.	.10	T.	.10	.02							T.	.01		T.	.30	.30								T.		.20					1.03
Ironton	do	.45	.45	.15	.12	.02		.01				.01					.30	.45										.15					2.11
Kremmling	Grand	.33	.02	.02	.28			T.	T.			T.	.09				.10	.18								.03		T.					1.05
Lake City	Gunnison	.16	T.	.24				.05	T.								T.	.22								T.		.05					0.72
Lay	Yampa	T.	T.	.15	.06	T.		.07				.32	.06					.65								.20	.05						1.56
Leal	Grand																																
Lujane	Gunnison		.06	.09	.06	.06		.01										T.															0.28
Mancos	San Juan	.15	.15	.08	.41											.02	.13	.24								T.							1.18
Marble	Grand	1.57	.22	*	.29	.03		T.	.12			.24	.21			*	.02	.48								.04			*	.05			3.27
Marshall Pass	Gunnison	.16	.03	T.				.08				T.				.17	T.	.39						T.		.18		.09					1.17
Meeker	White	T.	*	.25				T.				T.	T.				*	.55								.05	T.	.05		T.			0.90
Montrose	Gunnison			.16														.10															0.26
Nast	Grand	.45	T.	T.	.35			T.					T.				T.	.52					T.			T.	T.	.23		.10			1.65
Pagoda	Yampa																																
Pagosa Springs	San Juan	.28	.25	.17	.09							.12	.19		T.		.33	.25								T.							1.68
Paonia	Gunnison	.05		.10	.25		T.						.04													T.							0.45
Parshall	Grand																																
Pitkin	Gunnison	T.	.16	.25													.21	.45									.08						1.15
Rangely	White			.07	.41	.02						.02	.01					.15						T.				.07					0.75
Redcliff	Grand	.09	T.	.12	.14		.12										T.	.50								.13		T.	.15				1.25
Rico	Dolores	.60	.30	.26	T.			T.				.02			T.		.50	.95								.02		.01					2.66
River Portal	Gunnison																																
Sapinero	do	.17	.26	.03	.17			.15	.04			.02	.15			T.	.17	.51								.05		.08					1.80
Shoshone	Grand	.23	.03	.20	.05			.03	T.			.04	.22	T.			.13	.04								.04	.07	*	.05				1.13
Silverton (1)	San Juan	1.00	1.12	.25	.22			.10	.05			.10	.10				.75	1.56										.18					5.43
Silverton (near)	do	.48	1.20	.95	.60			.20				.27				T.	.30	.45								T.							4.45
Spruce Lodge	Grand		.10		.30								.38					.32								.19	.12	.18		.37			1.96
Steamboat Springs	Yampa				.34	.23			.12									.19									.30			.20			1.38
Tacoma	San Juan	.53	.22	.58								.02		.04		.04	.45	.28								T.							2.16
Terminal Dam	do	.54	.39	.80	.10							.18	.20		T.	.10	.84	.60						T.									3.75
Uncompahgre Plateau	Gunnison	.26	.31	.22	.06	T.						T.	T.			.05	.30	.98										T.					2.18
Whitepine	do		.40		.33								.15				.15	.80										.10					1.93
Yampa	Yampa	.10	.07		.13							.05	.08					.07								.05		.02		.06			0.63
Utah.																																	
Baker	Colorado	1.50									.10						.28							T.				.09					1.97
Basin	Grand	.80		.56	.30			.08				.06				.08	.18	.50								.05		.08					2.74
Castle Dale	Green	.20	.42	.30																													0.92
Emery	Colorado	T.	.30													T.																	0.30
Escalante	do	2.20		.25																													2.45
Fort Duchesne	Green		.12	.10	.40	T.							T.	T.		T.		T.															0.62
Grayson	San Juan	.10	T.	T.								T.				T.	T.	.10															0.20
Green River	Green	.17	T.	.07																													0.24
Hanksville	Colorado																																
Hite	do	.62	.07	.21													.07																0.97
La Sal	Grand	.15			.38							T.					T.									T.							0.53
Loa	Colorado		.20	.30														.30															0.80
Mill Canyon	do	.60	*	*	1.80					.20														T.									2.60
Moab	Grand	.45		.02	.02							T.					.22																0.71
Monticello	do																																
Orderville	Colorado																																
Price	Green																																
Ranch	Colorado	1.10	.42	.65							T.					.10	.22							T.									2.53
St. George	do	.30	.05									.06			.08																		0.49
Scofield	Green	.15					.70	.25		.08													.12		.80			1.10	.56				3.76
Springdale	Colorado	1.39			.10							T.				.10																	1.59
Strawberry	Green	.40	.20	.05	.30			.40	.10									.50								.50	.30	.20					2.95
Sunnyside	do	.10			.60								.10														.10						0.90
Theodore	do	.10	.42	.07	.01			T.					.07					.06								.05	T.						0.78
Tropic	Colorado	.80	.30	.90							.10	.10				T.	.10									.10							2.40
Vernal	Green																																
New Mexico.																																	
Alma	Gila																																
Aragon	do	*	1.05		.20							.40				.20		.45															2.30
Blackrock	Little Colorado		.16	.04	.15	.08						.05				.10	.80	.02															1.40
Bloomfield	San Juan	T.	T.	.05	T.							T.			T.	.10	.02																0.17
Cambray	Mimbres											.20																					0.20
Columbus	Gila											.14	T.																				0.14
Deming	Mimbres																																0.00
Dulce	San Juan	.04	T.	.07	.14							.15				.03	.12	.33															0.88

TABLE 2.—*Daily precipitation for January, 1910. District No. 9*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New Mexico—Cont'd.																																	
Fort Bayard	Mimbres			*	.03	T.						.56			T.	T.																0.64
Fort Wingate	Little Colorado	.10	T.	.01	.05							T.					.10	T.														0.29
Fruitland	San Juan	T.		*	.05	.24											T.	T.														0.29
Gage	Mimbres				.01							.22																				0.23
Gila (near)	Gila											.16	.10			.03																0.32
Hachita	...do				T.							.15																				0.15
Haynes	San Juan	T.	.10	.11		.21						T.			T.	T.	.10	.03														0.55
Hermanes	Gila											.21			T.																	0.21
Lordsburg	...do			T.	.03							.40																				0.48
Luna (near)	...do	.62	1.03	.13	.05	T.											T.	T.														1.83
Manuelito	Little Colorado		.03	.03	.03											.01	.03															0.28
Mimbres	Mimbres											.23	.03																			0.29
Pratt	Gila											T.																				T.
Putnam	San Juan		.04	.03	.05	.01											.20															0.33
Redrock	Gila			.02								.34																				0.36
Rodeo	...do	T.		T.	T.							.18																				0.18
Rosa	San Juan																															
Arizona.																																
Allaires Ranch	Sonora	.07	.06									.39			.03																	0.55
Arizona Canal Dam	Salt	.15	.39	.68												.07	.01															1.30
Aztec	Gila	.22	.31													.05																0.59
Benson	San Pedro	.10	T.	.15	T.							*	.30																			0.55
Bisbee	...do		T.	T.	.09							.15			.02																	0.26
Bonita	Mimbres																															
Bowie	Gila			.12									.65																			0.77
Buckeye	...do	.12	.50													.10																0.72
Canille	San Pedro	.22	.24	.05	.06							.13	.15			.02																0.88
Casa Grande	Gila		.08	.12	.03								.38																			0.61
Cave Creek	Verde	.39	.22	.55												.26																1.42
Chin Lee	San Juan	.02	.03	.08	T.	.16										T.	.02															0.37
Chlarsons Mill	Gila	.75	.46	1.20	.26							.14	.85				.15	.05														3.86
Clifton	...do	.32		T.	T.							.28																				0.60
Cline	Salt	.57	.20	.31	.03											.11	.35															1.57
Cochise	Desert		T.	T.	.05							.70																				0.75
Columbia	Agua Fria	.03	.04	.05	.65											T.	.01															0.83
Congress	Hassayampa	1.08	.35	T.												.10																1.53
Courtland	White											.52																				0.52
Dos Cabezos	Desert				.44							.18	.31																			0.93
Douglas	Sonora		.02	.02								.13	.03			T.																0.20
Dudleyville	Gila																															
Fairbank	San Pedro	T.											.30																			0.30
Flagstaff (1)	Little Colorado	2.08	.36	.28	.03							T.			.01	.04	.32	.05														3.17
Florence	Gila	.25	.40	.02																												0.67
Fort Apache	Salt	1.30	.12	.25	.10						T.	.15	T.		.10	.07	T.															2.09
Fort Huachuca	San Pedro		.20		T.								.40																			0.60
Fort Mohave	Colorado	.22	.15	.04												.03																0.44
Gilabend	Gila	.30	.45													T.	T.															0.75
Globe	Salt	.43	.73	.12	.03							.03				.06	.02															1.45
Grand Canyon	Colorado	.40	.18	.45	.10										.03	.05	.26	.02														1.49
Greer	Little Colorado	.50	.03	.07	.11							.35	.02			.20	.10															1.33
Hereford	San Pedro		.07	.01									.13																			0.21
Holbrook	Little Colorado		.30	.25	.14	.10										.33	T.															1.12
Intake	Salt	*	.70	.50												*	.40															1.60
Jerome	Verde	1.93	.79	1.05	.10											.90	.12															4.89
Keams Canyon	Little Colorado	.70	.20	.40																												1.30
Kingman	Colorado	1.07	.30	.10												.15																1.62
Lewis Springs	San Pedro		.02	T.	T.							T.	.12																			0.14
Maricopa	Gila	.08	.14	.03													.06															0.31
Mesa	Salt	.44	.26	.24													.03															1.03
Mohawk Summit	Gila																															0.00
Naco	San Pedro																															0.00
Natural Bridge	Verde	1.00	.50	.20	1.20											.20	.21	.05														3.36
Nogales	Santa Cruz																															
Oracle	San Pedro																															
Osborn	...do	T.		T.								T.	.08																			0.08
Paradise	Desert		T.		T.							.15	T.																			0.15
Parker	Colorado	.87	.08	.01													T.															0.96
Payson	Verde	.80	.48	.60	.19											.22	.15	.05														2.49
Phoenix (1)	Salt	.11	.26	.05												.07	.01															0.50
Pinal Ranch	...do		.76	1.16	.60	.04										.05	.05															2.76
Pinto	Little Colorado	.30	.33	.11	.10								.35	.28	.10																	1.57
Prescott	Hassayampa	.27	.86	.60	T.										T.	.11	.02															1.86
Quartzsite	Colorado																															0.00
Redrock	Santa Cruz	.09	.15	.13								.03			.01																	0.41
Roosevelt	Salt	.32	1.20	.48	T.											.16	.14															2.30
Sacaton	Gila	.01	.05	.15																												0.21
St. Johns	Little Colorado		.45			.50											.63															1.58
St. Michaels	...do	.14	.12	.02	.04	.02						T.				T.	.40	T.														0.74
Salome	Colorado	.28	.08												.09	T.																0.45
San Carlos	Gila	.23	.24	.08	.19							.26	.04			.02	T.															1.06
San Simon	...do	.10	.14									.10																				0.34
Seligman	Verde																															
Sentinel	Gila	.06														T.																0.06
Showlow	Little Colorado																															
Silverbell	Santa Cruz	.01	.52	.16								.04				.03																0.76
Supai	Colorado																															
Tempe	Salt	.15	.18	.40												.09	.02															0.84
Thatcher	Gila		.30																													0.30
Tombstone	San Pedro											.18																				0.18
Truxton	Little Colorado																															
Tuba	...do	.03		.10		T.	T.	T.	T.	T.								.12														0.25
Tucson	Santa Cruz		T.	.40	.11							.51	T.	T.	T.																	1.02
Vail	...do		.08	.33	.12						.40																					0.93
Walnut Grove	Hassayampa	.46	.22	.18	.57												.18															1.61
Wickenburg	...do																															
Willcox	Desert			.08	.20							.45			.10																	0.83
Williams	Colorado	1.20	.30	.55	.40											T.	.38															2.83
Winslow	Little Colorado	.85	.24	.16												.10	.06	.25														1.66
Yarnell	Hassayampa	.50	.56	.48																												1.54
Yuma	Colorado		.02																													0.02
Nevada.																																
Las Vegas	Colorado																															
Logan	...do	.21	.15	.20																												0.56

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.										New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George (Experiment station).		Fort Bayard.		Fort Wingate.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	36	20	44	30	39	34	52	24	40	22	47	33	46	33	32	8	35	15	50	31	51	43	56	33	69	45	52	32
2...	33	− 8	40	12	40	27	52	27	38	15	45	30	42	12	38	12	36	14	54	32	51	30	38	32	65	43	43	28
3...	14	−30	13	− 5	35	18	22	26	30	18	35	20	30	− 7	27	0	26	6	50	29	37	28	41	27	52	40	40	20
4...	6	−21	8	− 4	22	− 2	26	15	32	− 5	30	8	26	6	29	5	26	10	38	27	38	27	34	26	44	22	40	12
5...	5	−16	7	−10	18	− 9	17	− 1	11	−28	22	−30	12	− 9	25	− 9	18	−17	31	15	27	1	30	16	40	10	21	0
6...	8	− 1	23	−13	11	−14	16	−10	−12	−40	12	−21	9	−21	22	−10	6	−34	21	12	22	− 3	31	12	32	8	20	−10
7...	14	−14	23	9	17	−13	19	− 2	0	−35	20	− 7	16	−20	21	− 9	16	−23	28	12	21	2	35	14	50	8	32	− 8
8...	16	−28	25	− 4	33	− 8	22	−10	2	−24	27	− 9	24	− 5	22	− 8	7	−27	27	13	27	1	38	15	55	25	38	5
9...	20	−20	16	− 6	41	4	17	− 1	0	−30	25	− 3	18	−19	20	− 5	9	−23	32	17	22	7	40	16	55	25	50	10
10...	31	−13	13	− 9	41	18	25	2	10	− 8	30	11	31	2	28	− 5	12	− 5	33	14	33	7	46	26	56	35	48	28
11...	20	−14	19	2	38	23	29	13	14	−10	40	15	35	0	39	− 1	21	− 7	37	22	34	15	50	27	50	35	45	31
12...	22	−14	23	0	40	15	28	17	25	− 5	37	20	34	10	37	0	26	2	43	18	37	10	48	29	59	30	40	24
13...	15	−24	8	−15	38	7	30	3	5	−33	30	−10	10	−28	30	15	15	−15	41	20	31	18	53	24	50	25	41	29
14...	26	−19	13	− 4	39	21	26	8	19	− 5	36	− 2	32	− 9	37	24	15	− 8	37	26	29	16	47	26	55	37	41	15
15...	26	−26	21	− 8	39	33	34	11	15	− 1	46	8	33	0	47	19	26	− 6	39	28	35	16	55	30	60	40	42	24
16...	30	−10	34	− 2	36	33	39	26	29	− 2	46	26	46	9	40	− 4	28	− 2	49	32	47	25	60	32	58	45	40	30
17...	30	− 4	32	3	39	14	36	16	32	− 4	40	14	37	13	39	3	33	3	48	33	41	35	50	32	53	40	40	21
18...	30	2	31	6	30	4	34	8	16	−24	28	−11	23	−10	40	10	22	−11	43	22	40	18	49	19	48	25	30	4
19...	30	10	31	1	38	10	28	7	2	−26	30	−14	26	−13	40	11	19	−19	42	22	36	17	51	20	50	28	34	12
20...	29	− 5	37	2	35	9	37	7	5	−24	35	− 5	24	− 9	41	13	16	−19	43	22	38	17	54	19	47	35	52	20
21...	35	−12	31	− 4	43	14	35	7	10	−29	43	− 5	22	−17	40	11	18	−15	47	26	37	17	62	23	55	45	51	23
22...	40	14	37	12	41	12	36	12	12	−21	38	9	39	14	40	24	24	− 8	48	28	38	21	59	26	62	45	56	22
23...	40	15	37	27	45	25	42	26	16	− 3	45	14	46	18	42	11	27	4	51	32	43	30	63	30	60	47	58	28
24...	38	17	49	18	52	30	45	24	39	− 5	50	20	57	19	49	6	32	0	54	27	48	28	66	26	55	37	58	35
25...	25	− 2	38	18	39	14	48	23	25	−16	44	19	40	12	50	9	30	4	49	29	43	30	53	34	53	27	48	30
26...	22	−18	23	3	36	7	35	14	24	−11	35	1	21	−10	52	11	23	− 5	48	23	44	22	53	21	57	25	46	11
27...	23	−12	25	6	37	13	35	18	15	− 7	30	−10	25	6	50	13	26	−15	49	23	41	20	55	23	54	24	45	20
28...	28	9	34	13	37	6	38	17	17	−28	38	− 4	34	− 2	53	11	20	−11	47	23	41	19	59	21	57	20	50	15
29...	23	−15	32	0	42	9	40	16	20	− 8	34	4	34	2	48	9	21	−13	51	25	44	20	62	24	62	22	44	19
30...	32	14	35	4	38	9	42	15	24	−19	41	0	33	− 6	41	10	23	−11	50	24	44	18	59	19	60	25	50	16
31...	33	4	35	12	44	11	44	17	14	−20	41	3	37	− 8	45	11	21	−10	51	24	43	18	60	20	62	27	52	15
Mns	24.5	−7.1	27.0	3.0	35.9	12.1	33.5	12.1	16.5	−13.1	35.5	4.4	30.5	−1.2	37.5	6.0	21.8	−8.0	43.3	23.6	37.5	18.5	50.5	27.2	53.7	30.8	43.5	18.1

Date.	Arizona.																				Logan, Nev.	
	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	63	51	39	33	59	51	40	30	72	52	71	51	48	39	41	35	59	40	61	52	75	46	63	35
2	57	44	33	20	51	41	28	12	56	37	59	46	44	23	38	25	62	48	63	51	56	38	53	30
3	46	33	25	14	41	36	36	10	55	32	52	38	34	25	36	20	54	38	47	41	52	32	47	34
4	39	27	19	5	36	18	20	6	52	28	46	33	28	14	33	12	40	31	46	34	52	25	45	27
5	33	15	20	−22	26	2	20	−22	45	28	43	28	21	0	22	− 7	39	25	37	22	46	30	38	19
6	31	13	19	−18	33	− 4	24	−20	51	21	45	23	28	− 6	14	−15	42	18	42	15	49	29	37	16
7	49	19	40	−10	43	3	28	−10	55	21	50	24	40	− 2	21	− 7	45	16	55	18	53	29	42	20
8	55	28	33	− 3	48	9	34	− 2	58	23	60	28	49	9	26	− 3	52	18	60	23	59	34	48	30
9	57	32	42	5	56	15	40	4	56	25	70	35	53	14	39	− 2	62	20	71	30	62	32	49	25
10	59	37	41	20	58	20	40	6	58	27	66	41	50	22	41	4	62	25	70	36	62	31	50	31
11	59	37	37	20	48	38	38	24	67	33	57	44	43	32	41	21	54	35	55	46	63	39	50	30
12	58	46	32	2	55	35	38	10	69	27	63	33	42	19	41	17	62	41	60	43	64	31	53	30
13	57	46	33	22	56	23	40	16	69	31	68	38	51	23	39	18	68	31	70	36	64	46	57	32
14	57	37	44	26	55	25	38	24	69	37	68	47	56	31	40	26	68	40	67	49	64	44	54	28
15	66	37	41	33	50	40	42	30	61	42	57	50	46	36	39	33	60	46	68	49	65	48	53	35
16	62	46	38	33	50	41	44	28	68	52	61	49	50	40	41	25	59	45	61	47	70	51	63	35
17	60	45	36	20	52	42	36	22	64	37	62	43	42	32	42	24	61	45	59	46	64	47	56	32
18	50	30	38	10	52	17	46	− 4	67	29	64	33	45	14	39	8	58	27	63	28	63	39	53	23
19	54	32	46	6	56	16	46	8	70	24	65	36	48	16	39	10	68	28	64	30	63	38	52	21
20	56	34	43	10	62	15	44	8	76	28	74	31	55	17	40	11	68	23	73	28	70	41	58	23
21	60	32	48	21	64	20	50	18	79	37	77	48	58	26	44	19	68	29	75	45	76	51	68	31
22	68	37	59	21	69	23	58	14	78	36	74	42	64	27	47	20	68	26	76	37	79	55	65	33
23	62	42	57	26	71	24	54	22	78	41	75	44	70	32	52	28	68	28	78	37	77	50	68	36
24	72	40	48	29	70	28	48	24	75	43	70	43	56	36	52	29	74	29	78	40	74	48	70	34
25	63	51	38	16	60	28	37	20	69	35	64	42	48	31	55	25	66	32	67	40	65	41	60	27
26	62	41	44	12	61	17	42	14	72	28	66	34	55	19	42	15	66	23	70	28	69	39	57	27
27	60	39	39	18	58	17	44	16	75	29	70	32	52	21	34	11	61	20	68	28	70	44	60	28
28	60	34	49	14	63	14	44	16	77	31	68	36	57	20	44	15	67	21	70	27	73	45	66	27
29	61	36	44	17	64	19	44	18	80	32	72	38	58	23	43	19	71	26	73	27	75	44	67	31
30	61	38	51	11	64	19	48	12	81	36	76	40	58	21	47	15	70	23	75	31	78	42	65	30
31	61	40	52	14	66	18	50	12	81	34	74	39	60	23	49	14	70	25	75	32	81	43	64	29
Means	56.7	36.4	39.6	13.7	54.7	22.9	40.0	11.8	66.9	32.8	64.1	38.4	48.7	21.8	39.4	15.0	61.0	29.7	64.7	35.4	65.6	40.4	55.8	28.4

Climatological Data for January, 1910.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The month of January, while much colder than usual and one of the coldest Januarys on record, was nevertheless 3.2° warmer than December, 1909, although normally it is several degrees warmer. Not only was the mean temperature higher than that of December, but the minimum temperatures were not so low. Nearly every station reported temperature deficiencies. This abnormally cold weather was due to the high barometric pressure over this district during the month. The precipitation averaged somewhat more than normal, and was fairly well distributed.

TEMPERATURE.

The mean temperature for the district averaged 23.2°, which was 3.9° below the normal. The local means ranged from 39.1° at Jean in the extreme southern portion of Nevada to 10.8° at Border in the extreme southwestern portion of Wyoming.

The warm weather which prevailed generally over the Great Basin on the last day of December, 1909, continued on the 1st day of January, 1910, except in Oregon and northern Nevada, where very cold weather prevailed. But after the 1st it became colder in all portions of the district until the 6th, and the lowest temperatures for the month were generally recorded during this period. After the 6th the temperature rose until the 16th, which marked the beginning of another cold spell which continued, however, only a few days. The last decade of the month was much warmer throughout the entire district.

The lowest temperatures generally occurred, as noted above, from the 2d to the 6th. The lowest reported in Wyoming was −27° on the 5th at Cokeville. In Idaho the lowest was −20° on the 12th and other dates at Paris. The lowest in Utah was −22° on the 6th at Pinto. Most of the stations in Utah reported their lowest temperatures as occurring on the 5th and 6th, but a few stations recorded their lowest on the 7th, 8th, and 13th. Burns, Oreg., reported −24° on the 2d, while the lowest at other stations in that State occurred on the 3d. In Nevada and the portion of California in District No. 10 the minimum temperatures were generally observed on the 5th and 6th, but a few stations in Nevada recorded their lowest temperatures on other dates. The lowest temperature for these two States was −28° at Elko and Quinn River Ranch, Nev., on the 11th and 5th, respectively, which was the lowest for the district.

The highest temperature for the month occurred during the last decade, except at a few stations in Utah and Nevada where they were recorded on the 1st. The highest temperature for the district was 65° at Scipio, Utah, on the 19th, and at Jean, Nev., on the 22d and other dates.

PRECIPITATION.

The precipitation for the district averaged 1.59 inch, which is 0.39 inch above the normal. The distribution varied greatly from the normal at stations very close to one another, some reporting amounts below normal and others amounts above normal. As a rule the greatest deficiencies occurred in Nevada and the greatest excesses in Utah. The greatest monthly amount was 7.83 inches at Glen Alpine Springs, Cal., and none occurred at Jean, Nev.

Precipitation occurred over practically the entire district on the 1st day of the month, and many stations reported large amounts on that day. It continued for a few days in Utah and at a few stations in the remaining parts of the district. Considerable precipitation occurred during the remainder of the month, the periods, however, were ill-defined over most of the district, but centered around the 15th and 25th, except in the portion of California, where quite general precipitation was observed on the 9th, and from the 13th to the 17th, and from the 23d to the 26th.

Most of the precipitation of the month fell as snow. In Utah the amount of snow which fell in the mountains during the month was less than usual, but the total depths of snow in the mountains and canyons at the end of the month was thought to be somewhat more than usual, insuring a good water supply for the ensuing season. In Wyoming there was less than usual at this season. Stations in Nevada reported less than the January fall of last year.

NOTES.

The cooperative observer at Burns reported that the winter had been severe up to the end of January and that the loss to stock was slight, but if the cold weather continued it would be heavy, as feed was getting scarce.

The Jordan River, which drains Utah Lake into Great Salt Lake, was reported on January 2 to be higher than ever before. The high temperatures of December 31, 1909, and January 1, 1910, had caused the snow in the mountains to melt to a large extent, swelling the streams enormously. It was not expected that the high water would do any damage, as the channels are capable of carrying all the water at its present stage.

The following information regarding the conditions in the Truckee and Carson basins is furnished by Mr. Thos. H. Means, Project Engineer, Fallon, Nev.:

> The dangerous conditions referred to previously are still present. On the last day of the year and on New Year's day we had heavy precipitation at Fallon, the first half of the storm being rain, passing into sleet, and finally into snow. Approximately 2.50 inches of precipitation fell. The storm seemed to have been a general one and I presume the precipitation was heavy in the mountains to the west of us. At any rate we have approximately from 6 to 12 inches of snow in the desert and foothills tributary to the Truckee and Carson rivers, lying on frozen, wet ground. This will rapidly melt in case of warm weather or warm rain and will bring down large quantities of water. There seems to be a good deal of light snow in the mountains higher up, but we do not expect a heavy flow from the higher portion of the watershed this time of the year as warm wind or rain on this snow will simply melt the top and the water will be largely absorbed by the underlying snow.

The observer at Paisley, Oreg., writes:

> I beg to say that some sheep losses were reported owing to frozen feed and that the losses among cattle were small. The heavy rain in November brought up the Chewaucan higher than ever known before, flooded the marsh, and destroyed 15,000 tons of hay. The town of Paisley suffered severely from an ice jam in the river which caused an inundation. The river was jammed for 2 miles with a solid pack of ice, and the entire town site was flooded with from 2 to 3 feet of ice and water. The ice still covers the town site (January 31, 1910). Over half of the people had abandoned their homes, but have now returned.

FLOODS ON THE DESERT NEW YEAR'S DAY, 1910.

The unusual occurrence of an energetic low pressure area passing over middle California and southern Nevada about New Year's Day, 1910, caused the exceptional phenomenon of disastrous floods on the desert; and but for the fact that the lower Great Basin is quite typically a desert region, and devoid of most of the enterprises of civilization, the loss would have been tremendous.

December snows were comparatively heavy and numerous in southern Nevada, and the rounded, wind-worn hills, and the sageless flats were covered with from a trace to several feet of snow, generally moist and solid, and in a very uncertain condition to remain there in the event of even a moderate thaw, or a light rain. Both of these flood-making conditions came at once on New Year's Eve, when the temperature rose to from 40° to 50°; strong warm winds swept in from the southwest and rain fell in torrents, all of which conditions persisted steadily for

about 48 hours. On the morning of January 3, as the low pressure center moved off to the southeast, the rain turned to snow, with a cold northwest wind, and the temperature dropped to near, or below, zero, stopping the floods almost as quickly as they began, but leaving the hills bare and brown.

During the night of December 31–January 1 the melting snow and drenching rain dashed quickly from the slopes to the natural drainways and into the beds of the streams, where the ice was quickly floated, and the formation of jams produced water heads which soon broke, only to form again in the narrow places back of clogged débris, again to crush forward with enormous force and in tremendous volumes, cutting the canyons and demolishing the improvements, but leaving the few mining towns, as a rule, far above the chaos.

The largest stream in the region of greatest flood is the Virgin, flowing across southwestern Utah, or "Dixie" as it is called because of its tropical tendencies of climate, northwestern Arizona, and southeastern Nevada. Its principal tributary is the Muddy River, which flows (when there is sufficient water) through the Meadow Valley Wash, west of the north and south Mormon Range of mountains, which is the route of the San Pedro, Los Angeles and Salt Lake Railroad. While the Virgin floods were the greatest known to settlers there, and farm buildings were carried away like packing boxes, and entire farms cut away, or buried with débris, the destruction in this valley was lessened because of its breadth, and of the greater length of the drainage slopes; but in the narrow box canyons of the Meadow Valley Wash, where the railroad runs, the results were truly terrible, the tracks and other railroad property being almost completely obliterated from Barclay to Guelph (just above Moapa), a distance of 83 miles. The towns along the line were deserted, and many buildings destroyed; however, the population of Caliente, the most important place, moved back into town with few exceptions, after the flood had subsided.

Mr. Channing Thomas, Railroad Editor of the Salt Lake Tribune, made an extensive study and report of the damage by the flood in Mormon Canyon, or Meadow Valley Wash, in which he has the following to say:

The scanty population in the devastated district was quite well aware of the danger that was imminent when the rain and warm weather set in, and they moved quickly to the higher places, hence there was no loss of life reported in the various towns. One trackwalker, caught by the floods in the darkness, was killed and a human body was seen in the angry waters, but was not recovered and its identity is unknown.

A westbound train consisting of 17 cars of steel for building construction, 2 cars of horses, and a few cars of miscellaneous freight was stopped for safety by the crew, on a high piece of track, but the floods tore away the mountain side and let the entire train, except the engine, tumble into the torrent. The horses were killed and the steel beams were strewn down the canyon from 3 to 8 miles, and were twisted and jammed and bent as if they had been so many wires.

A lone passenger train still stands marooned on the only other stretch of safe track remaining in the canyon, just a short way above Moapa.

A stack of railroad rails at Caliente was swept away, not a single rail being found nearer than one-half a mile, many of them having been polished bright in their travels. A number of steel gondola cars were torn from their trucks by repeated overturning, and the bodies were driven several miles from the track south of Guelph, and heavy timbers and other railroad wreckage have been found 18 miles off the right of way, down the Muddy toward the outlet on the Virgin.

At Caliente the water rose above the floors of many business houses and was several feet deep in the roundhouse after the local dike gave way, and 17 engines stood in water to the tops of the drive wheels. Smaller buildings near the main stream were carried away like barrels and the remainder of the town was deserted, the people having gone to the higher ground for safety.

After the disastrous washout in February, 1907, the railroad track through this canyon was laid 6 feet above the highest previous water stage known in 47 years, and during this year's flood the water averaged about 2 feet above practically the entire length of track, and was in places 8 feet above the rails. The passenger train and the lone freight engine are about 60 feet above the bottom of the Wash.

It is said to be the greatest calamity that has ever befallen a railroad in history, the destroyed property having cost about $2,000,000, which, owing to the canyon defacements, will cost about $3,000,000 to replace at a higher level; the directly resultant loss of business during the time of restoration is estimated at another $5,000,000.

The loss of property to ranchers and farmers in the lower Muddy and in the Virgin valleys was not particularly great in value for the reason that this region is but sparsely settled and there was comparatively little property to destroy. However, several farms were completely ruined and the occupants rendered destitute, having lost their buildings and animals as well as their crops in the fields.

Harry Gentry, of St. Thomas, Nev., says of the flood:

In December, 1909, we had our first snow for 20 years, and the warm weather, winds, and rains that occurred in the last of December and the first of January caused the largest body of water to flow down this valley any resident has ever known. The stream here, ordinarily but a creek, was 10 feet deep and 1,200 feet wide for a while. The bridges were taken out and the land was considerably washed, ruining several acres of grain and about 300 rods of fence.

Mr. Thomas J. Jones, postmaster at Overton, Nev., just above St. Thomas, on the Muddy River, says:

The storm was the heaviest for several years. The snow was the first I have seen in Moapa Valley, and was more than any of the old residents here have ever seen. There was little damage right here, but both valleys near here were flooded from the Virgin and the Meadow Valley Wash. From the railroad, near Guelph and Rox, the flood water spread into Moapa Valley carrying fences away and ruining the grain fields, littering them badly. Our valley was too wide to wash greatly. On parts of the Virgin, much of the land was washed away leaving some families homeless, and leaving the people in general suffering much more loss than we did here in the Moapa, though we lost about 200 acres of wheat and barley and probably 50 acres of garden truck. Our greatest loss is that our railroad to the East is gone, and our produce markets for this year are in doubt.

Mr. J. I. Earl says:

This was one of the most destructive floods that ever went down the Virgin River. A great deal of land has been washed away and much property has been destroyed. Mr. H. P. Iverson's home was washed away, together with his granary containing 100 bushels of wheat, his new farm wagon, his hay stacks, and his corrals. Mr. Samuel Reber, sr., also lost his hay and stock corrals. The dam and head works of the irrigation ditch, and some of the farms below it, at Mesquite, Nev., on the Virgin at the Nevada-Arizona line, have all gone down the river, and the dam and a number of miles of ditch at Bunkerville, the next community below Mesquite on the Virgin, were washed away. No lives were lost.

The Official in Charge of the Local Office of the United States Weather Bureau at Modena, Utah, says:

Local damage was slight. The stage carrying the mail for St. George, Utah, which left here at 9 a. m., December 31, was caught in the torrent of a swollen creek about 40 miles from here and the wagon, both horses, the mail bags, and the baggage were swept down stream and lost, the driver managing to escape with some difficulty. The total precipitation on the 31st of December and 1st of January was 0.90 inch, a large amount for this region, being mostly rain, and was accompanied by warm southwesterly winds, causing rapid melting of the accumulated snows.

Mr. Joseph T. Atkin, Foreman of the Utah Agricultural College Experimental Farm at St. George, Utah, writes:

The damage caused by the floods of January 1, 1910, in this section amounted to many thousand dollars. On the Santa Clara (uniting with the Virgin from the north at St. George) alone, it did at least $15,000 damage. Much land was washed on the Virgin, and the water systems suffered greatly.

Mr. William Hurst, Supervisor in the United States Forest Service at Beaver, Utah, says:

Rain fell as high as the 8,000-foot contour on January 1, 1910, and to say there was a world of water puts it mildly. Every draw, hollow, stream, and drainage course was filled to its fullest carrying capacity, as the slopes had been covered with about 12 inches of snow, and in the hills it was much deeper. By the time the water had all concentrated in the channel of the Beaver River at Milford, or rather, tried to concentrate there, the stream was about a mile and a quarter wide. During my residence in this section of the State, covering a period of over 20 years, I can not remember of seeing so much water as I saw on January 1 in a drive to the town of Milford, on the Salt Lake route, the lower end of which was inundated, teams having to be sent to the railroad shops to get the men out. A fortunate freeze on the night of January 1 solidified everything again.

High temperatures, with rain or moist snow produced more or less flood conditions throughout the entire Great Basin, from Oregon to southeastern Utah on the 1st of January, and the greater part of this region was underlain with a layer of frost, which hastened the run-off even on the more level slopes. The

freeze following, throughout the Basin, being quite a hard one, closed the streams abruptly.

RELATION OF THE FARMER TO THE WEATHER BUREAU.

By Prof. LEWIS A. MERRILL, Agronomist, Utah Agricultural College.

THE ARID FARMER.

Not more than 10 years ago practically all the dry farming carried on in this State was confined to the section of the State lying north of Salt Lake City. For a great many years dry farming had been carried on in Cache, Boxelder, and Davis counties, but until 1904 it was believed by the farmers south of Salt Lake City that the production of grain without the use of irrigation water was impracticable. About that time a study was made of the amount of precipitation in some of the counties of the State, the records of which had been made by the voluntary weather observers, working under the direction of the observer at Salt Lake City. The records at these stations showed that the precipitation at Fillmore, Millard County, was equal to the precipitation at Logan, in Cache County, the center of the dry farming area of the north, and that the precipitation in Wasatch County and Juab County was in excess of that at Logan. It was found that even some sections of Washington, Iron, and Beaver counties had an average annual precipitation equal to that of those localities where dry farming was successfully practised.

As a consequence of the accumulation of this data experiments were conducted and demonstrations carried on, showing that by properly conserving the precipitation, cereals could be produced without the use of irrigation water; and in consequence there are thousands of acres of land in this State under cultivation at the present time by dry farming methods. The reclamation of this vast area has been due, very largely, to the establishment of the observation stations by the Weather Bureau.

Since that time other stations have been located, and dry farming has been established as a successful farm practise in San Juan, Sevier, Kane, Utah, Tooele, and a number of other counties of the State. An important factor in connection with the determination as to the feasibility of dry farming in any given locality is the time at which the precipitation comes. While it is unquestionably true that success can be had, if proper methods of moisture conservation be followed independent of the time at which the precipitation occurs, yet greater success is attained when there is an ample supply of moisture during the growing months of April, May, and June. In localities where the precipitation is extremely light, if there is an assurance of ample supply of moisture during these three months, the prospects for successfully establishing dry farming are very much better.

Utah's dry farming area has developed around those centers where the Weather Bureau has already shown that there is an ample supply of moisture, and it has failed to develop in other localities where the Weather Bureau has shown that the precipitation is insufficient. There are other localities in the State where even the most venturesome has not dared to go, because there is no record of the amount of precipitation available.

The information from some of the most fertile areas of Utah, regarding the amount of precipitation, is so incomplete that the work of reclaiming these deserts is somewhat handicapped by the insufficiency of data at hand.

The chief concern of the arid farmer is to so conserve the precipitation in his soil that there will be little or no loss from evaporation. Many experiments have been made in recent years to determine the maximum and minimum amounts of water necessary for the production of vegetable organic matter. A problem the arid farmer has to solve—and this is also true of the man who is growing crops by irrigation—is the determination of the conditions under which the maximum amount of vegetable substances of best quality may be reproduced with a minimum amount of water. As a result of these experiments, it has been determined that cultivation of the soil largely reduces the evaporation of water, and the more cultivation received by the plant the less amount of water transpires from the plant in the production of a pound of dry matter. A number of other determining factors have been discovered. For example, it has been shown that shade diminishes greatly the evaporation of water from the soil, and that increasing the saturation of the soil increases in a somewhat larger ratio the yields of dry matter from that soil, and that approximately the same amount of water is required under various conditions of soil saturations for the production of a pound of dry matter. It has been found that fertile soils will produce crops with a much smaller amount of water than will infertile soils. The number of pounds of water required for the production of a pound of dry matter varies greatly with the crop, the soil, the season, and the method of cultivation practised, and the amount of water required for the production of plants is very much higher in our arid climate than in the humid sections.

In all of these questions the Weather Bureau, in ascertaining the necessary data in relation to the amount of precipitation, the velocity of the wind, and the number of days of sunshine, has a wonderful field, and it is a great pleasure to know that the Weather Bureau is greatly interested in establishing such data.

The writer regards the establishment of the Weather Bureau stations as fundamental to any locality where farming is to be practised, and particularly desirable in those localities where dry farming methods are to be relied upon entirely.

THE FRUIT GROWER.

Successful fruit growing in this State will depend largely upon the information furnished by the United States Weather Bureau.

Fortunately for the fruit grower, methods have been discovered whereby a greater part of the loss to the fruit crop from frost and freezing weather can be avoided. Recent experiments in orchard heating in Colorado have demonstrated that a safe temperature can be maintained when the thermometer goes down to 20° above zero, or even lower. The application of this discovery means that there is to be a revolution in the fruit-growing industry through the entire west. It means that the successful fruit grower will equip his orchard with apparatus to protect him from spring frosts.

In this work the Weather Bureau will have a very important part to play, since a warning will be sent out as to when frosts may be expected, and the fruit grower, relying upon this warning, will be enabled to adopt such methods as will result in saving the crop. The records from those stations where orchard heating has been most successful show that frosts are insidious in most cases, but the possibility of their coming can generally be forecast by the Weather Bureau. In the fruit-growing belts it will be necessary for a telephone to be installed on every fruit farm, and by cooperation with the Weather Bureau, the changes in the thermometer and general trend of air currents may be easily ascertained. Warnings can be sent out by the Weather Bureau, fires directed started in the orchards, and the crop can be saved.

THE IRRIGATION FARMER.

Utah has an area of 54,000,000 acres of land. Of this amount 20,000,000 acres are taken up by mountains and lakes. There are 12,000,000 acres of coal, salt, and mineral lands, leaving 22,000,000 acres of land subject to cultivation. If this land is ever put under cultivation most of it will have to be done by dry farming methods. There still remains, however, a considerable acreage of the most valuable land to be farmed by irrigation.

In determining the feasibility of any irrigation project, the work of the Weather Bureau plays a very important part. The average amount of precipitation in any given locality should be the determining factor as to whether the water in any of the rivers will be sufficient to warrant the construction of reservoirs and canals. It is generally understood that during the past few years the precipitation in this State has been abnormal, but if the data furnished by the Weather Bureau and extending over a number of years is examined and the facts warrant the construction of an irrigation system it may be safely proceeded with. Any other course might prove disastrous.

CONCLUSION.

The writer regards the establishment and maintenance of properly equipped Weather Bureau stations in various localities of the State as being a matter of prime and vital importance. The growth of the agricultural interests of the State is very closely connected with the results and facts determined by these stations, and they should be encouraged by the farmers, and such representation should be made to our Congressional delegation as would convince them of the necessity of establishing a great many more stations than are now in existence.

TABLE 1.—*Climatological data for January, 1910. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	8	10.8	− 1.8	42	23†	−22	5	41	0.66	− 0.70	0.25	.....	6	16	7	8	e.	S. W. Condron.
Cokeville	....do			14.4		48	23†	−27	5	44	0.38	.....	0.17	3.5	4	17	11	3	nw.	E. J. Tuckett.
Evanston	....do	6,860	14	18.8	− 1.7	46	23	−13	6	36	0.76	− 0.34	0.31	6.0	4	13	12	6	sw.	Frank Tucker.
Idaho.																				
Geneva	Bear		2	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.72	6.0	5	22	4	5	.....	F. W. Boehme.
Grace	Bannock	5,405	3	19.6	.....	46	23†	−14	5	38	1.89	.....	0.67	13.0	7	9	14	8	s.	Cyril B. Dickson.
Oxford	....do	4,750	2								1.76	.....	.....	12.0						Edwin Smith.
Paris	Bear Lake	5,946	16	12.2	− 7.2	47	24	−20	12†	44	.....	.....	.....	.....	.....	19	6	6	w.	John Norton.
Stone	Oneida	4,520	2	14.6	.....	42	21†	−22	6	50	0.52	.....	0.16	10.5	6	17	11	3	n.	Thos. W. Roe.
Weston	....do	4,460	12	20.4	− 4.4	50	24	−10	5	33	1.32	− 0.13	0.35	.....	7	8	12	11	s.	Wm. Chatterton.
Utah.																				
Alpine	Utah	4,900	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Stevens.
Annabella	Sevier	5,250	5	.....	.....	.....	.....	.....	.....	.....	0.03	− 1.64	0.02	2.0	2	.....	.....	.....	.....	J. W. Fairbanks.
Beaver	Beaver	6,000	7																	James Connell.
Black Rock	Millard	4,872	10	27.0[f]	.....	51[f]	31	−10[f]	8	39	1.28	.....	0.29	9.5	5	18	3	10	s.	W. D. Livingston.
Castle Rock	Summit	6,244	7								0.55	.....	0.20	5.0	6	14	12	5	sw.	David Moore.
Cedar City	Iron	5,750	5	31.2	.....	60	23	−10	5	35	1.34	.....	0.66	5.0	6	15	7	9	ne.	Parley Dalley.
Corinne	Boxelder	4,240	40	14.6	−10.2	55	24	−10	13	37	1.45	+ 0.13	0.50	14.5	6	9	5	17	.....	A. C. Murphy.
Deseret	Millard	4,541	16	27.0	− 0.1	53	24†	−10	6	35	0.25	− 0.23	0.15	3.0	2	15	2	14	n.	S. W. Western.
Enterprise	Washington	4,270	2								4.70	.....		12.0	5	18	4	9	.....	John Day.
Farmington	Davis	4,267	10	27.1	− 1.7	53	24	− 3	5	....	2.70	+ 0.46	0.60	27.0	11	12	6	13	n.	Charles Boylin.
Fillmore	Millard	5,100	20	30.9	+ 0.3	62	24	−13	5	39	1.02	− 0.17	0.65	.....	6	.....	.....	.....	.....	J. J. Starley.
Friese Summit	Wasatch																			Victor A. Friese.
Frisco	Beaver	7,318	16	28.7	− 3.2	52	23	− 7	5	30	0.59	+ 0.12	0.34	.....	2	.....	.....	.....	.....	E. R. Smyth.
Garrison	Millard		7	25.3[d]	.....	50	1†	−15[d]	5	36	1.39	.....	0.50	6.0	5	13[e]	6[e]	7[e]	s.	E. M. Smith.
Government Creek	Tooele	5,277	10	25.7	.....	51	23	−11	5	30	1.40	.....	0.40	11.0	9	13	6	12	s.	Walter James.
Grantsville	....do										0.99	.....	0.27		4	.....	.....	.....	.....	Allen J. Fraser.
Heber	Wasatch	5,606	17	21.4	+ 0.3	52	24	−16	6	40	1.10	− 0.94	0.20	9.0	9	10	4	17	s.	John Crook.
Henefer	Summit	5,301	11	23.0	+ 0.4	56	24	−13	5	43	2.06	+ 0.04	0.60	11.5	12	13	7	11	nw.	Wm. Brewer.
Ibapah (near)	Tooele	7,500	5	23.8	.....	53	23	−12	5	35	2.21	.....	0.60	24.4	10	14	5	12	e.	J. S. Lawton.
Ibex	Millard			31.8	.....	58	31	− 5	5	35	0.51	.....	0.18	4.0	5	11	7	13	s.	John J. Watson.
International	Tooele	5,370																		I. S & R. Co.
Kanosh	Millard	5,250	2								1.69		0.70		4					Geo. Crane.
Kelton	Boxelder	4,230	32	13.5	− 9.5	37	23	−19	5	35	1.40	+ 0.77	0.30	11.0	11	1	25	5	.....	F. W. Klock.
Levan	Juab	5,010	20	26.0	+ 1.7	51	24	−10	6	36	0.95	− 0.48	0.35	8.3	6	15	6	10	sw.	Wm. Brown.
Logan	Cache	4,507	19	20.4	− 3.7	50	1	−10	5	33	1.87	+ 0.43	0.60	11.0	8	16	4	11	n.	Edgar Brossard.
Lucin	Boxelder	4,504	6	16.8	.....	42	1	−15	3†	53	1.20	.....	0.50	7.0	5	.....	.....	.....	w.	C. J. Burke.
Manti	Sanpete	5,575	16	22.0	− 3.4	50	1	− 8	5	30	0.72	− 0.43	0.21	6.0	6	12	2	17	.....	J. M. Anderson.
Marion	Summit	6,750	6								1.39		0.73	8.8	9	8	4	19	s.	Jas. Woolstenhulme.
Marysvale	Piute	6,180	11	28.8	+ 0.5	56	23	− 7	6	39	0.57	+ 0.08	0.34	3.3	7	10	10	11	sw.	John W. Henry.
Meadowville	Rich	6,200	11	16.8	− 5.4	47	22	−15	13	36	1.50	− 0.81	0.80	9.0	6	16	3	12	w.	J. S. Moffat.
Milford	Beaver	4,962	6	23.6	.....	52	1	−16	5	35	.....	.....	.....	.....	.....	26	0	5	.....	C. M. Temple.
Millville	Cache	4,848	15	.....	.....	.....	.....	.....	.....	.....	1.70	+ 0.18	0.38	.....	10	15	0	16	sw.	Fred Yeates.
Minersville	Beaver	5,070	13								1.66	+ 0.75	0.90	7.0	6	.....	.....	.....	.....	Geo. Roberts, sr.
Modena	Iron	5,479	10	25.4	− 2.1	56	23	−19	6	37	1.51	+ 0.74	0.75	8.3	7	10	11	10	w.	U. S. Weather Bureau.
Morgan	Morgan	508	7																	W. Visick.
Moroni	Sanpete	5,519	2	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.21	10.5	6	6	23	2	sw.	B. F. Eliason.
Mount Nebo	Utah	4,650	9	27.2	.....	58	16	− 7	6	32	1.06	.....	0.42	6.5	4	16	5	10	s.	D. C. Walkey.
Mount Pleasant	Sanpete	5,859	18	26.0	− 1.4	52	24	−12	6	40	0.57	− 0.66	0.22	5.6	5	14	7	9	.....	C. B. Scoville.
Nephi	Juab	6,059	7								0.90	.....	0.26	10.0	6	21	4	6	nw.	A. M. Madsen.
Oak City	Millard	4,900	6	28.5	.....	57	30	− 9	5	39	1.71	.....	0.44	8.5	9	14	10	7	sw.	Peter Nielson.
Ogden	Weber	4,310	9	24.2	− 3.0	47	24	− 3	5	27	2.66	− 0.14	0.60	16.0	8	8	10	13	nw.	Enoch Farr.
Panguitch Lake	Garfield	9,000	1								5.20	.....		32.0	6	12	9	10	s.	Jas. E. Prince.
Park City	Summit	7,800	13	23.0	− 1.0	64	19	−14	5	55	4.73	+ 1.46	0.85	.....	13	10	8	13	.....	Irvin Evans.
Parowan	Iron	5,970	19	27.1	− 1.7	54	23†	− 8	7	48	1.87	+ 0.87	0.50	11.8	6	.....	.....	.....	.....	S. M. Matheson.
Payson	Utah	4,637	7								2.12		0.60	28.0	10	5	10	16	sw.	D. L. Coombs.
Pinto	Washington	5,907	13	26.4	− 0.7	60	22	−22	6	48	2.13	+ 0.93	1.00	15.0	6	17	4	10	n.	J. H. Harrison.
Promontory	Boxelder	4,913	39								1.30	+ 0.33	0.60	13.0	4	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	18	29.8	+ 3.0	60	24	− 1	6	30	1.29	− 0.03	0.40	12.2	8	7	20	4	n.	James A. Oliver.
Randolph	Rich	6,442	7								0.71	.....	0.36	.....	3	10	6	5	sw.	William Rex.
Richfield	Sevier	5,350	20	31.2	+ 4.3	60	23	− 1	6	42	T.	− 0.66	T.	.....	0	19	2	10	.....	Joseph J. Jensen.
Saltair	Salt Lake	4,220	7	26.2	.....	55	1	7	5	24	1.14	.....	0.30	10.5	7	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	....do	4,366	36	28.5	− 0.3	56	23	1	5	27	0.99	− 0.36	0.24	14.2	10	6	10	15	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	15	28.8	+ 1.9	65	24	−13	6	53	0.94	− 0.30	0.28	2.0	7	12	10	9	sw.	Thos. Memmott.
Silver City	Juab	6,127									0.67	.....	0.28	.....	5	8	7	16	s.	J. L. Stark.
Spanish Fork Canyon	Utah	4,585	1	30.3	.....	56	23†	− 2	5	29									.....	U. S. Reclamation Service.
Thistle	Utah	5,075	18	23.6	− 1.7	56	30	−10	5	54	1.80	+ 0.16	0.60	18.0	4	21	6	4	.....	Denver & Rio Grande Ry.
Tooele	Tooele	4,900	14	26.4	− 1.7	58	24	−10	5	33	2.14	+ 1.04	0.68	.....	9	5	12	14	e.	E. A. Bonelli.
Utah Lake Pumping Sta.	Utah	4,500	5	27.8	.....	53	1	0	6	24	1.07	.....	0.36	8.0	9	11	10	4	sw.	W. A. Knight.
Woodruff	Rich	6,500	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. D. Brown.
Oregon.																				
Burns	Harney	4,157	20	17.6	− 5.7	46	30	−24	2	40	1.29	− 0.09	0.28	13.0	8	12	4	15	.....	J. C. Welcome, jr.
Christmas Lake	Lake	4,320	2	23.6	.....	52	23	−20	3	47	0.37	.....	0.10	5.0	9	1	9	21	sw.	John C. Green.
Paisley	....do	4,500	6	28.0	.....	55	30	− 9	3	32	0.30	.....	0.18	9.0	7	12	2	17	sw.	E. C. Woodward.
"P" Ranch	Harney	4,300																	.....	J. P. Jefferson.
Silver Lake	Lake	4,700	14	25.6	− 2.3	52	23	−17	3	36	2.65	+ 1.79	0.40	27.5	10	14	5	12	s.	Wm. Holder.
California.																				
Al Tahoe	Eldorado	6,235	....	26.5	.....	54	21	−13	5	53	4.72	.....	0.95	65.1	8	13	11	7	sw.	A. R. Sprague.
Boca	Nevada																			Southern Pacific Co.
Glen Alpine Springs	Eldorado	6,850	....	23.4[a]	.....	50[a]	31	−10[a]	5	43[a]	7.83[a]	.....	0.93[a]	121.0	13[a]	10	6	15	s.	E. W. Porteous.
Tahoe	Placer	6,240	....	26.3	.....	52	23	− 6	5	36	4.81	.....	1.50	74.5	7	12	3	16	w.	Robert M. Watson.
Truckee	Nevada	5,819	39	18.2	.....	45	24	−20	5	39	6.90	.....	.....	69.0	8	13	0	18	s.	Southern Pacific Co.
Nevada.																				
Aurora	Esmeralda										1.10	.....	0.80	12.0	2	.....	.....	.....	.....	
Austin	Lander	6,594	21																	Bert Acree.
Battle Mountain	....do	4,843	39	19.0	− 9.2	58	24	−20	6	48	1.60	+ 0.82	0.90	16.0	2	15	8	8	sw.	Southern Pacific Co.
Beowawe	Eureka	4,905	39	24.8	− 1.6	50	22†	−14	6	49	0.65	− 0.12	0.35	6.5	2	12	7	12	s.	Do.
Carlin	Elko	5,232	39	17.8	− 3.4	55	23	−17	5	51	0.29	− 0.58	0.26	7.7	2	20	0	11	.....	Do.
Carson Dam	Churchill	4,032	3	18.1	.....	41	23†	−16	5	33	0.97	.....	0.97	6.0	1	10	2	19	e.	U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	1	24.9	.....	53	23	−12	5	42	0.51	.....	0.20	3.8	7	9	19	3	nw.	J. H. Leishman.
Clover Valley	Elko	6,000	10																	I. F. Wiseman.
Cobre	....do					50[h]	13†				0.38[r]			4.5[h]	1[h]					Southern Pacific Co.
Columbia	Esmeralda	5,750	3	29.6	.....	51	29	2	6	29	0.90	.....	0.87	2.0	2	14	11	6	nw.	A. Booth.
Dutton	Elko	5,100	2	20.0	.....	54	24	−22	3	33	0.60	.....	0.40	6.0	2	8	12	11	.....	Golconda Cattle Co.
Elko	....do	5,342	39	17.2	− 5.5	50	23	−28	11	61	0.43	− 0.91	0.36	15.2	4	9	5	17	ne.	Southern Pacific Co.
Ely	White Pine	6,421	19	24.0	− 0.1	52	14	−11	5	46	1.36	+ 0.33	0.39	10.8	7	19	4	8	w.	G. C. Hunting.
Eureka	Eureka	6,500	7	25.3	− 1.8	53	30	− 7	4	38	0.71	− 1.09	0.25	16.5	6	9	7	15	s.	Clay Simms.

TABLE 1.—*Climatological data for January, 1910. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nevada—Cont'd.																				
Fallon	Churchill	3,965	5	17.0	−13.8	42	14	−15	5	41	1.98	+ 1.44	1.09	10.5	2	18	6	7	e.	U. S. Reclamation Service.
Fernley	Lyon	4,200	2	19.5	−11.7	51	31	−16	5	35	0.97	+ 0.13	0.78	5.0	3	9	12	10	w.	Mrs. A. J. Rankin.
Gardnerville	Douglas	4,830	10	24.0	− 7.2	50	14	−14	5	40	4.16	+ 2.03	1.10	31.0	6	11	6	14	e.	Wm. Dangberg.
Geyser	Lincoln	.....	5	22.4	.....	59	23	−15	6	52	0.40	.....	0.40	4.0	2	14	13	4	s.	Mrs. J. F. Wambolt.
Glenbrook	Douglas	.....	...	27.0	.....	50	23	− 5	6	37	4.60	.....	2.01	72.5	5	14	0	17	sw.	C. C. Henningsen.
Golconda	Humboldt	4,697	31	16.5	−11.3	41	31	−16	5	29	0.37	− 0.27	0.30	5.1	2	19	7	5	se.	Southren Pacific Co
Halleck	Elko	5,631	17	.....	.....	.....	.....	.....	.....	.....	1.30	+ 0.03	1.30	13.0	1	6	7	18	sw.	Do.
Jean	Clark	2,074	2	39.1	.....	64a	22†	8a	.....	6	0.00	.....	0.00	0.0	0	8	17	6	sw.	Salt Lake Route.
Leetville	Churchill	4,020	3	17.2	.....	43	22†	−17	5	39	1.25	.....	1.15	7.0	2	14	10	7	n.	U. S. Reclamation Service.
Lewers Ranch	Washoe	5,500	22	27.2	− 6.6	58	23	− 8	5	43	3.40	− 0.56	1.20	34.0	8	12	10	9	.....	Ross Lewers.
Lovelock	Humboldt	3,977	7	17.8	−14.8	46	24	−17	5†	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Case.
McAfees Ranch	Esmeralda	4,835	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rodenkirch.
Millett	Nye	.....	2	25.0	.....	52	23	− 8	4	40	1.50	.....	0.87	.....	7	15	4	12	s.	Fred J. Jones.
Mina	Esmeralda	4,600	3	30.1	.....	58	27	− 7	17	39	1.00	.....	0.80	10.0	3	21	3	7	sw.	Southern Pacific Co.
Mount Rose Ranch	Washoe	.....	...	.....	.....	59b	31	.....	.....	.....	3.35	.....	.....	26.2	12	15	8	8	sw.	Fred Elkins.
Palmetto	Esmeralda	6,780	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Isaac McConnell.
Potts	Nye	6,900	17	21.7	− 3.0	48	22	−13	5	38	0.60	0.00	0.40	3.5	3	6	6	19	s.	Miss Mamie Potts.
Quinn River Ranch	Humboldt	4,850	8	16.6	.....	50	23	−28	5	56	0.66	.....	0.21	6.0	7	11	5	15	w.	F. M. Payne.
Reno	Washoe	4,532	39	34.8	− 6.6	54	23	− 6	5	39	0.98	− 0.69	0.29	12.9	9	9	13	9	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	3	16.4	.....	41	23	−19	5	37	0.54	.....	0.39	8.4	7	6	11	14	n.	U. S. Reclamation Service.
Tecoma	Elko	4,812	32	.....	.....	44a	23†	−20	16	57	0.40	− 0.30	0.40	4.0	1	13	10	8	sw.	Southern Pacific Co.
Tonopah	Nye	6,090	3	26.4	.....	49	23	− 2	5	25	0.55	.....	0.18	7.9	6	13	15	3	se.	U. S. Weather Bureau.
Wabuska	Lyon	4,347	7	19.8	.....	48	24	−15	5	47	1.22	.....	0.90	0.0	3	6	10	15	ne.	J. G. Young.
Wells	Elko	5,631	38	13.7	− 9.3	42	16	−15	6	44	.....	.....	.....	.....	.....	12	0	19	s.	Southern Pacific Co.
Winnemucca	Humboldt	4,432	31	20.0	− 8.8	47	23	−15	5	36	0.76	− 0.28	0.60	9.2	9	4	14	13	ne.	U. S. Weather Bureau.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
|| Estimated by observer.
||| Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 10, Great Basin.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Border	Bear	.25						.10		.09	.11	.06					.05															0.66
Cokeville	do	.09	.10									T.					T.	.17						T.		.02			T.			0.38
Evanston	do	.16	.31		T.												.20	T.								.09						0.76
Idaho.																																	
Geneva	Bear	.72							.49			.30					.15										.09					1.75
Grace	do	.32	.67	T.	T.					.06		.24	T.		T.	T.	.56	.01											.03			1.89
Oxford	do																															‡1.76
Paris	do																															
Stone	Deep Creek	.05	.04							.06	.12						.16								.09							0.52
Weston	Bear	.35	.32									.29					.24									.03	.04		.05			1.32
Utah.																																	
Alpine	Great Salt Lake																															
Annabella	Sevier Lake		.02								.01										T.											0.03
Beaver	do																															
Black Rock	do	.29	.28	.27	.18													.26														1.28
Castle Rock	Great Salt Lake	.20	.10				T.	T.					.05				.05									.05	.10					0.55
Cedar City	Desert	.66	.46	.06	.08							T.	.03				T.	.05								T.						1.34
Corinne	Great Salt Lake					T.		.50	.10			.40					.10									.35						1.45
Deseret	Sevier Lake		.10															.15														0.25
Enterprise	Desert	*	3.68	*	1.00												*	.02														4.70
Farmington	Great Salt Lake	T.	.20	.10	T.			.60	.40			.20	.20				.20	.10								.20	.40		.10			2.70
Fillmore	Sevier Lake	.06	.04	.05	.21							.01	T.					.65														1.02
Friese Summit	Great Salt Lake																															
Frisco	Desert	.25		.34																												0.59
Garrison	do	*	*	.89														*	.50													1.39
Government Creek	do	.05	.25	.10	.10	.05			.05								T.	.20								.40	.20					1.40
Grantsville	do	*	*	*	*	.40						.27					.23									*	.09					0.99
Heber	do	.20	.16	T.	.08			.15				.10					.20									.06	.08		.07			1.10
Henefer	Great Salt Lake	.60	.21	.04	.05			.09	.10			.03				T.	.10	.05								.49	.20		.10			2.06
Ibapah (near)	Desert	.60	.47	.07	.22	.24		T.	.01			T.					.14	.27								.16	.03	T.	T.			2.21
Ibex	do	.05	.18	.15	.06													.07														0.51
International	Great Salt Lake																															
Kanosh	Sevier Lake	.37		.58														.70							.04							1.69
Kelton	Great Salt Lake	*	.30	.10			*	.20	*	.20	.10						*	.20											.20		.10	1.40
Levan	Sevier Lake	.12	T.	*	.25							.13						.35								.06	.04		T.			0.95
Logan	Great Salt Lake	.60			.04		.10					.20				*	.48									.37			.08			1.87
Lucin	Desert		.50					.20	.10	.10							.30															1.20
Manti	Sevier Lake	.05	.20	.05								.07	.21					.12														0.72
Marion	Great Salt Lake	.73	.10	T.	.05	T.	T.	.10	T.			.04					T.	.13								.04	.07		.13	T.		1.39
Marysvale	Sevier Lake	.34	.07	.05	.02			T.	T.			T.	.02				T.	.04								.03	T.	T.				0.57
Meadowville	Great Salt Lake	.80	.30	.15						T.		.15						.05								T.	T.		.05			1.50
Milford	Sevier Lake																															
Millville	Great Salt Lake	.30	.38		.25			.15	.03			.11					.22									.22	.02		.02			1.70
Minersville	Sevier Lake	.90	.20	.25								.15						.05								.11						1.66
Modena	Desert	.74	.26	.40	.01							.04				T.	.03	.03								T.						1.51
Morgan	Great Salt Lake																															
Moroni	Sevier Lake	.09	.14	T.									.21				T.	.05								.17	.06					0.72
Mt. Nebo	Great Salt Lake	.42			.30													.30								.04						1.06
Mt. Pleasant	Sevier Lake	T.	.17	.03								T.	.22					.10								.05						0.57
Nephi	Great Salt Lake	.09	.14		.21								.13				.26									.07						0.90
Oak City	Sevier Lake	.05	.15	.10	.20						.27	.05						.40					.44			.05						1.71
Ogden	Great Salt Lake	.20	.25		.20			.60	.50			.20														.69	.01		.10			2.66
Panguitch Lake	Sevier Lake	*	*	4.50	T.							.20					.35									.15						5.20
Park City	Great Salt Lake	.85	.46	.50				.65				.43			.26	.21	.34	.45								.23	.14	.03	.18			4.73
Parowan	Desert	.44	.25		.50							.37						.28								.03						1.87
Payson	Great Salt Lake	.18	.30	T.	.60			.13	.14			T.	.05					.56								.07	.06	.03		T.		2.12
Pinto	Desert	1.00		.62	.35							.03					T.	.10						.03								2.13
Promontory	Great Salt Lake	.20								.30																.60		.20				1.30
Provo	do	T.		T.	.10			.40	.20			.02					T.	.20	.05							.30	.02					1.29
Randolph	do	.36	.20			T.	T.	T.	.15				T.	T.	T.											T.	T.	T.				0.71
Richfield	Sevier Lake																	T.								T.						T.
Saltair	Great Salt Lake		.11		T.			.18	.05								.20	.30								.24		T.	.05			1.14
Salt Lake City	do	.05		.05	.05			.17	.05			.06					.15									.24	.10		.07			0.99
Scipio	Desert	.15	.28	T.	.01	.10						T.	.14					.21								.05						0.94
Silver City	do	.28	.12	.11	.10												.06									T.						0.67
Spanish Fork Canyon	Great Salt Lake																															
Thistle	do			.40									.40			.40											.60					1.80
Tooele	do	.01	.33	T.	.68	.35		.03				.05					T.	.40							.27	T.			.02			2.14
Utah Lake Pump'g Sta	do	.23	.03	.10			.36										.07									.20	.02	.03	.03			1.07
Woodruff	do																															
Oregon.																																
Ana River	Interior Drainage	.03			T.		T.		.04						.08	T.			T.		.03		T.	.01		.04		T.			.14	0.37
Burns	do								.21										.20		.15	.28	.06	.14	.06		.19					1.29
Burns Mill	do	.30						.40							.30		T.	T.	T.			.90	.25				.40				.20	2.75
Cecil's Ranch	do																															
Christmas Lake	do		.01					.10										.01				.06	.05	.01	T.			.04	.04		.05	0.37
Diamond "H" Ranch	do																															
Paisley	do	.18																						.01	.02	.01	.01		.02		.05	0.30
Plush	do																															
"P" Ranch	do																															
Silver Lake	do	.40													.30	.30	.30	.30	.20	.20	.20			.20	.25							2.65
Valley Falls	do																															
California.																																
Al Tahoe	Truckee	.95								.02					.62	.85	.54	.54						.50	.70							4.72
Bijou	do	.25													.74	1.40									.93							3.32
Boca	do	1.20	.10	.10			T.			.15			1.10	T.		.50	2.90							.50	.20	1.00						7.75
Bodie	East Walker						.40	T.								.28	T.							.40	.50	.90						2.48
Bridgeport	do																															
Brockway	Truckee	1.12								.25					.50			1.07								.87						3.81
Deer Park	do	.69	.43							*	.42				1.12	.15	.17	.27						*	.99	.58	.12					4.94
Donner Ice Camp	do	*	*	2.50				T.				T.		*	*	1.30		*	2.55			T.	1.35		.33							8.23
Fales' Hot Springs	West Walker																92								.58							1.50
Glen Alpine Springs	Truckee	.93	.37						.25	.25			*	*	.74	1.48	1.34	.15							.75	.87	.70					7.83
Hobart Mills	do	.90	.22							.10	.04				.90	1.13	.85	.10				.09	.06	1.60	.13	.10						6.22
Lundy	East Walker									.10					.30	.95									.50							1.85
Markleeville	East Carson	1.60	.21	.10										T.	1.00	.56								.30	.96							4.73
McKinney	Truckee																															
Shields' Ranch	West Walker	.60													.10	.10	.40	.30							.10	.40						2.00
Silver Creek	East Carson	1.62	.40	.16									.10	1.09	.70								.31	1.60	.08							6.06
Tahoe	Truckee	.50							*	.21					.75	1.25	.66					T.	T.	1.50								4.81
Tallac	do	.10								.25					1.10	1.90	.40					T.			2.25	T.						6.00
Truckee	Truckee	.80								.10					*	*	*	3.60						2.40								6.90
Woodfords	West Carson	.50	.15												.20	.26	.18							.22	.17	.07						1.75

TABLE 2.—*Daily precipitation for January, 1910. District No. 10*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nevada.																																	
Aurora	East Walker	.08														.03																	0.11
Austin	Reese																.62				.10						.30						1.02
Battle Mountain	Humboldt		.70													*	.90																1.60
Beowawe	do	.35														.30																	0.65
Buckskin	Walker																																
Carlin	Humboldt	T.					T.								T.	.26									.03								0.29
Carson Dam	Carson	.97											T.	T.		T.	T.								T.								0.97
Cherry Creek	Humboldt	.14	.20		T.				.02			.01					.02	.05								.07	T.						0.51
Clover Valley	do																																
Cobre	do																																
Columbia	Desert	.87	.03															T.															0.90
Dutton	Humboldt								.20							.40																	0.60
Elko	do	.03	T.		T.			T.		T.	T.				.03		.30								T.	T.	T.		.01		T.		0.43
Ely	do	.34	.37	T.	.04				.02			T.	.10				.39									.10							1.36
Eureka	do	.23	T.	.01	T.							.02			T.		.20								.15		.08						0.71
Fallon	Carson	1.69											T.			.29	T.						T.		T.								1.98
Fernley	Truckee	.78	T.				T.						T.			T.	.09	T.						T.	.10								0.97
Gardnerville	Carson	1.06	.30												.30		1.10	.30								1.10								4.16
Geyser	Humboldt	*	.40																														0.40
Glenbrook	Truckee																																
Golconda	Humboldt	.07	.30							T.															T.								0.37
Halleck	do														*	1.30																	1.30
Jean	Desert																																0.00
Leetville	Carson	1.15															.10																1.25
Lewers Ranch	Truckee	.80	.40							.20		.40				*	1.20								*	.40							3.40
Lovelock	Humboldt																																
McAfees Ranch	Desert																																
Millett	Reese	.87	.08				.08	.15	.12									.05	.15							T.							1.50
Mina	Desert	T.	.15													.80									.05						T.	1.00
Mount Rose Ranch	Truckee	*	.55						*	.40				*	.15	*	1.45					*	.10	*	.70								3.35
North Fork	Humboldt	.50					T.	.09	T.				T.		.07	.05	.10						T.			.10			T.				0.91
Palmetto	Desert																																
Paradise Valley	Little Humboldt	.90						.35						.05												.10	.10						1.20
Potts	Reese	.40	T.	.05	T.							T.					.15																0.60
Quinn River Ranch	Humboldt	.19						.02		.03	.02				.12	.21									.07								0.66
Reno	Truckee	.21	.05	T.			T.			.02	T.		T.	.07		.10	.29					T.	.01	.03	.20						T.		0.98
Rose Creek	Humboldt																																
Smith	West Walker														T.	.02	.22								.03								0.27
Spooners Ranch	Truckee																																
Soda Lake	Carson	.39	T.				.03			T.		T.			.05	.01	T.	.01					T.	.01	.04								0.54
Sweetwater	East Walker																																
Tecoma	Humboldt	T.	T.													T.	.40										T.			T.			0.40
Tonopah	Desert	.10	.12	.12								.01					.08								.12								0.55
Wabuska	Walker	.90	T.					T.								T.	.30								.02								1.22
Wells	Humboldt																																
Willow Point	Little Humboldt	.40															.20																0.60
Winnemucca	Humboldt	.28					T.	T.		.08	T.	T.	T.		.02	.15	.04					T.	.01		.03	T.	.05					.10	0.76

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 10, Great Basin.*

Date.	Wyoming.				Weston, Idaho.		Utah.																Burns, Oreg.		Elko, Nev.	
	Border.		Evanston.				Corinne.		Deseret.		Government Creek.		Marysvale.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.					
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	40	32	42	32	45	33	25	7	48	42	41	36	43	35	45	26	45	38	51	36	53	45	53	42	20	−10	28	20
2...	35	6	39	15	42	9	20	6	42	24	42	20	41	28	28	20	43	22	43	18	53	26	41	26	16	−24	30	− 1
3...	19	−11	22	3	24	7	10	3	25	22	29	19	35	18	27	10	29	23	28	22	31	22	30	22	6	−19	24	−14
4...	8	− 4	10	− 3	12	3	15	7	22	7	20	6	24	5	19	− 4	25	10	26	6	27	10	22	8	22	−17	15	−11
5...	4	−22	6	−12	11	−10	10	2	21	− 8	10	−11	18	− 2	13	−17	18	− 3	22	− 5	16	0	17	1	18	−10	15	−20
6...	8	−16	9	−13	16	− 6	21	1	18	−10	17	− 6	24	− 7	18	−10	19	6	25	− 7	26	− 1	18	5	33	8	15	−13
7...	15	−12	23	5	26	11	26	16	25	6	30	10	32	5	32	− 2	26	13	30	− 8	27	11	27	16	30	6	30	7
8...	16	−12	28	7	32	11	25	11	31	2	34	9	35	5	31	− 1	22	15	38	− 7	33	9	33	18	30	4	31	− 4
9...	19	− 4	22	8	27	10	10	2	33	14	31	17	41	20	36	10	30	17	44	− 4	35	15	28	22	24	− 8	26	4
10...	18	− 6	20	0	25	4	10	− 1	30	12	29	10	41	23	40	15	27	7	38	− 2	42	14	23	16	18	− 6	28	0
11...	21	−12	25	10	22	2	15	3	37	20	38	14	41	29	35	10	25	16	40	7	43	22	31	19	24	0	26	−28
12...	20	− 6	28	7	30	2	8	− 4	33	16	32	10	36	6	28	− 3	26	11	38	2	40	22	27	19	30	4	21	−10
13...	4	−18	15	− 7	20	− 6	30	−10	26	12	28	10	37	7	31	2	22	− 2	36	6	32	9	36	9	29	5	28	−13
14...	15	−17	36	2	34	3	28	− 3	46	11	39	26	43	22	41	12	40	13	41	11	48	25	44	26	34	12	37	13
15...	26	− 8	39	7	40	20	45	− 7	48	32	45	27	46	38	41	28	43	23	43	13	56	28	52	26	39	0	42	−11
16...	20	− 1	36	28	40	28	30	6	49	33	43	30	47	33	40	30	39	30	45	14	52	28	49	28	28	− 8	45	23
17...	20	0	28	1	29	0	23	1	40	14	31	16	41	21	30	17	34	12	30	16	40	18	31	18	34	4	27	−15
18...	24	− 2	32	17	34	8	32	4	32	1	37	7	36	− 1	34	7	32	14	39	0	38	10	37	19	39	1	29	−20
19...	28	− 2	31	7	36	12	27	2	40	5	40	17	46	7	45	15	35	13	43	3	41	15	40	19	34	4	37	−24
20...	20	− 7	38	4	33	2	25	4	39	7	38	15	41	5	38	12	33	17	47	5	41	14	40	23	38	12	42	−18
21...	25	− 6	41	8	31	3	40	3	45	19	40	19	53	20	47	21	35	17	53	20	46	20	38	22	40	25	38	10
22...	36	11	38	23	40	20	42	10	45	19	43	20	53	22	52	28	37	24	53	28	45	23	38	25	44	36	40	20
23...	42	28	46	21	45	27	45	20	48	29	51	30	56	29	56	31	39	20	54	30	46	30	56	31	43	30	50	30
24...	42	22	43	28	50	28	55	23	53	31	49	32	49	36	47	32	47	32	53	27	60	36	55	36	37	− 2	49	23
25...	35	20	36	15	40	18	45	25	38	25	44	20	41	21	37	22	45	21	54	24	49	25	38	25	27	0	46	20
26...	26	− 7	22	5	35	15	34	8	46	24	34	11	45	15	43	21	33	14	54	10	37	15	34	24	34	5	38	14
27...	25	2	22	7	27	4	20	− 4	40	16	34	4	29	10	36	20	31	10	53	17	40	10	36	18	38	5	38	− 8
28...	30	15	32	13	32	15	32	− 4	45	15	43	15	46	13	47	18	33	18	50	19	37	15	35	22	45	7	34	− 2
29...	28	−10	28	1	32	2	15	− 6	42	18	34	16	46	23	39	26	31	11	48	20	40	25	35	21	42	5	38	− 6
30...	30	−11	36	2	30	0	10	− 5	46	13	39	13	49	12	46	17	31	12	50	18	42	17	36	19	46	10	35	− 9
31...	25	0	45	9	39	7	20	− 5	53	16	48	20	53	14	51	20	36	14	52	21	52	20	42	21	45	14	42	− 4
Mns	23.4	−1.9	29.6	8.1	31.6	9.1	25.6	3.7	38.3	15.7	35.9	15.5	41.2	16.5	37.2	13.7	32.6	15.9	42.6	11.6	40.9	18.6	36.2	20.8	31.8	3.3	33.0	−1.5

Date.	Nevada.																							
	Ely.		Eureka.		Fallon.		Jean.		Lovelock.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	36	3	41	30	35	21	.....	.....	40	− 5	41	30	34	19	30	21	35	18	.....	12	40	15	32	11
2	30	0	35	6	24	3	57	26	10	−13	43	32	27	11	24	−20	27	12	.....	12	21	13	23	− 1
3	34	4	25	8	22	−10	54	12	10	−14	35	17	28	12	20	−19	19	4	.....	− 2	13	6	15	−13
4	28	− 2	14	− 7	20	−10	42	26	20	−23	24	− 8	26	4	18	−15	20	− 1	.....	− 8	8	0	18	− 6
5	24	−11	15	− 6	12	−15	30	14	22	−17	19	− 4	30	7	28	−28	18	− 6	.....	−13	13	− 2	20	−15
6	30	−10	28	− 5	12	−11	32	8	33	−10	23	− 4	32	11	14	−20	27	5	.....	−19	24	10	18	−12
7	33	13	34	15	25	2	.....	.....	36	− 9	29	10	39	12	34	2	42	17	.....	− 2	31	16	33	8
8	32	2	30	11	25	1	42	11	40	− 8	27	5	38	18	21	− 6	32	17	.....	6	29	18	25	13
9	34	21	32	20	29	2	46	22	12	0	34	15	38	9	34	11	31	22	.....	− 6	27	18	28	17
10	36	5	31	16	22	4	47	25	20	−17	28	6	35	18	37	12	27	21	.....	− 8	29	18	32	7
11	31	4	30	15	20	12	51	26	35	0	32	8	44	19	26	17	30	12	.....	8	29	20	22	2
12	35	− 6	30	3	19	5	48	23	35	− 5	29	− 6	50	22	20	12	24	7	.....	−14	29	19	23	6
13	34	− 1	30	14	18	4	55	25	20	− 7	39	1	47	21	30	− 7	41	2	.....	−18	32	20	35	8
14	52	24	35	21	42	1	58	27	37	3	38	27	50	22	32	10	42	33	.....	−14	35	23	38	15
15	40	18	37	28	39	3	62	33	40	2	40	30	54	21	29	4	37	27	.....	−13	37	32	32	13
16	39	14	37	21	35	2	60	34	29	− 6	38	25	38	− 1	35	9	33	20	.....	−20	33	17	35	4
17	33	9	28	5	29	0	55	28	26	5	29	10	32	− 7	16	− 5	29	6	.....	−13	22	14	19	− 2
18	40	− 6	30	0	20	5	49	20	32	7	24	− 2	42	3	16	−10	28	− 4	42	−15	28	15	21	− 2
19	41	9	45	10	27	− 4	53	25	20	− 4	33	2	41	12	28	1	40	11	38	−11	36	20	40	4
20	37	4	45	14	21	− 8	54	19	22	6	39	− 1	45	22	23	− 6	33	4	40	4	39	26	32	2
21	49	25	50	32	35	3	62	34	38	4	45	12	50	30	32	8	37	14	42	11	46	35	36	18
22	51	28	46	29	38	25	64	29	41	5	40	22	55	33	43	24	44	33	40	12	46	35	44	32
23	44	25	46	35	38	19	64	33	40	4	52	25	50	29	50	30	54	27	44	10	49	37	47	33
24	40	34	42	28	41	26	64	33	46	1	47	26	33	16	41	23	37	24	44	14	38	18	47	26
25	42	11	37	13	37	9	60	28	45	0	39	21	51	18	32	12	36	17	42	12	28	15	32	16
26	50	14	35	18	38	12	63	21	39	− 2	43	25	54	20	38	13	45	21	42	− 8	34	18	40	14
27	40	6	42	10	37	9	60	23	35	0	41	16	58	31	41	0	42	18	42	−10	42	25	41	12
28	42	20	45	18	34	9	.....	.....	40	− 6	44	19	53	26	37	16	42	20	40	− 8	42	31	37	14
29	39	22	42	14	31	10	.....	.....	41	− 5	42	24	54	20	37	− 2	39	23	30	−10	41	28	38	8
30	50	10	53	15	29	10	.....	.....	38	− 3	43	20	55	27	27	3	39	20	32	−10	45	33	39	11
31	46	14	45	22	30	11	64	23	39	−10	50	20	54	19	31	17	52	22	36	− 8	44	34	44	13
Means	38.5	9.5	36.0	14.6	28.5	5.5	53.7*	24.5*	31.6	−4.1	36.5	13.6	43.3	16.9	29.8	3.3	34.9	14.7	39.6*	−4.2	32.6	20.2	31.8	8.3

Climatological Data for January, 1910.

DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. McADIE, District Editor.

GENERAL SUMMARY.

The month was colder than any January since 1890. Indeed, with a single exception, it was the coldest January since records have been kept, or in other words, since 1872. The rainfall was neither heavy nor light and was unusually well distributed, both geographically and with respect to time. At the beginning of the month damage was done in southern counties by moderately heavy rain, following a storm on the last day of the year. Elsewhere we give in detail a report of the losses sustained by transportation companies during this period. In the case of the San Pedro, Los Angeles and Salt Lake Railroad it was reported that the loss would amount to about $7,000,000.

There were many severe frosts during the first decade and much damage was done to oranges and lemons.

As intimated above, the current January can not well be classified as belonging to the dry type, such for example, January, 1898; nor yet to the wet type of month, as exemplified by January, 1896. The difference between these types is apparent in the entirely different distribution of sea-level pressure, the trend of the surface isotherms, and the resultant surface winds. In the dry type, we find a more or less permamanent high extending from the Rocky Mountain section to the Pacific coast and overlying the whole region between the Canadian boundary on the north and the Mexican line on the south. North winds, frequent and heavy frosts, warm afternoons and cold nights, comparatively little cloudiness, and much tule fog in the valleys and along the water courses, mark the dry type of midwinter month. The wet type, as might be anticipated, occurs when the high area is displaced eastward, covering the Missouri and the Mississippi valleys, and in a less well-defined form the Lake region, with an area of low pressure over the north Pacific slope. Under such conditions southerly winds prevail, there are frequent and heavy rains, the mornings are warmer and the afternoons not so warm, there is less fog, and frosts are not so frequent. During the present January there was no predominating circulation. There were many individual disturbances and no well-marked settled periods. For a few days at a time characteristic circulations would prevail, but there was no permanency, and as a result the forecaster had to anticipate what may be described as seesawing and unsettled weather. A good illustration of this is found on January 5 and 6. What the prime cause of such fluctuations may be we are not yet prepared to say, but it is interesting to note, even if it should be only a coincidence, that unusual activity in storm development and movement in the lower air occurred on the Pacific slope at the same time that similar conditions prevailed on the Atlantic seaboard, as shown by the daily maps of January 5 and 7.

Taking the month as a whole it may be said that there were few features of special importance to the meteorologist. From an agricultural standpoint, with the exception of the losses to citrus fruits due to the severe frosts of the first decade, the month was extremely favorable, neither forcing growth nor unduly checking it. At the present time the outlook is favorable for good crops.

TEMPERATURE.

The highest monthly temperature, 56.7°, was reported from Soledad; and the lowest, 18.3°, from Tamarack. The difference in elevation between the two stations is 7,812 feet. The highest daily temperature reported was 89°, at San Jacinto on the 30th; and the lowest, −30°, at Alturas, on the 3d. The absolute range for the State was 119°.

PRECIPITATION.

The greatest monthly precipitation was 17.17 inches at Monumental, and none occurred at Bagdad and Mojave. The greatest 24-hour rainfall was 6.72 inches at Summit. The prevailing wind direction was south. The following table gives the State means for a period of 7 years:

	1904	1905	1906	1907	1908	1909	1910
Temperature in degrees F.....	45.8	48.3	47.5	43.9	46.7	47.8	41.9
Precipitation in inches.....	1.38	4.37	7.86	7.46	4.63	16.17	4.86

For the State as a whole, there was a deficiency of 3.1° in temperature, and 0.32 inch in precipitation.

RAILROAD LOSSES DUE TO WEATHER.

In the history of railroading on the Pacific slope there have been some notable instances of complete tie-ups and general demoralization of service, due to extreme weather conditions. Chiefly the damage is caused by floods, due to continued rain or rapid rise in rivers. Interruption due to heavy snowfall or to washouts caused by high rivers, swollen by melted snow, must be expected during the winter months, and in such cases traffic can generally be resumed with the falling of the waters below the level of the roadbed. But of late, interferences of a much larger order have occurred, due to abnormally heavy rain over a wide territory. Nearly all of the transcontinental systems having terminals in California have suffered losses ranging from one to several million dollars, due directly to these widespread rains. During the months of August and September, 1904, the Santa Fe system suffered losses aggregating $3,000,000. In this case the rain areas were extensions of the subtropical rain belt and the individual disturbances well-marked storms of the Sonora type swinging northward into the United States from the Mexican States.

The Southern Pacific system during the month of January, 1909, suffered losses exceeding $1,000,000, caused by a period of excessive rain due to storms of an entirely different type. In this case the different disturbances swept through California from the north, and the damage was greatest in the central and northern counties.

During January, 1910, following some heavy rains at the close of December, the southern counties of California suffered from floods. The San Pedro, Los Angeles and Salt Lake Railroad, more familiarly known as the Clarke System, experienced as a direct result of these southwestern storms what may be considered as perhaps the greatest single loss sustained by any railroad company at any time. The road runs from Los Angeles to Salt Lake City, traversing southern Nevada and the desert section of California. Nearly a hundred miles of road were washed away and the system demoralized to such an extent that traffic will be suspended for a period of six months or longer. Indeed it may be necessary to entirely abandon certain sections of the present roadway. Several hundred employees of the company in various cities were laid off for an indefinite period, it may be for a year or longer.

The total losses may exceed $7,000,000, if, in addition to the direct losses of the road itself, the demoralization of mining companies dependent upon the road for supplies is considered.

It may not be without interest to study the progressive movement of the rain area which caused this great loss, with a view of ascertaining if there were any marked features of which advantage could have been taken in forecasting and giving warning. So far as Callfornia is concerned such warnings are practicable and, indeed, were available for railroad men during this and other occasions. On December 30 and 31 the pressure was high over the Great Basin, surface temperatures moderate,

and the winds mostly from the north. Heavy rain fell in California, but there was no especially well-marked depression. On January 1 the depression was well marked. In 24 hours there had been a fall of nearly half an inch in pressure and the rain area covered most of California, all of Nevada, all of Arizona, and most of Utah. The significant feature of the pressure distribution, however, in my judgment, was the appearance of a marked high over Montana. This appears to have blocked the eastern passage of the low and for a period of 72 hours stormy conditions prevailed with heavy rain turning to snow in the district under consideration. There was an aftermath, so far as California is concerned, in the period of heavy frosts culminating on January 6. On this date during the morning hours more than half of the State experienced temperatures below freezing.

The following special dispatch to the San Francisco Chronicle from Los Angeles, Cal., gives an approximate value of the losses sustained by the citrus fruit growers of the southern counties, due to the heavy frosts of the first decade of January, 1910:

This year's orange crop has been damaged approximately $1,000,000, according to estimates made by reliable growers. Some believe that this amount will also cover the damage to nursery stock and to the coming year's crop, while others figure that the total may be several millions.

As compared with the $35,000,000 valuation of the present crop, this is not a discouragingly large item. Several of the leading growers make the surprising statement that the cold weather brought them more benefit than harm. The frosty weather came just in time to check the growth and hold the oranges to normal size. * * * Deciduous fruit men believe their profits by reason of the cold will be more than the citrus fruit growers' losses.

PRECIPITATION, RUN-OFF, AND EVAPORATION IN THE OWENS VALLEY.

By CHARLES H. LEE, Assistant Engineer, Los Angeles Aqueduct.

The region known as the Great Basin, or District No. 10 of the Weather Bureau, is unique among the great North American drainage areas on account of there being no surface outlet to the ocean for its streams. Generally speaking its climate is arid, the annual precipitation being less than 10 inches over a large part of its area, but in the high mountain ranges forming its eastern and western borders the snowfall is very heavy. The chief rivers of the Great Basin rise in these ranges, receiving their supply directly from melting snow, and flow out into the valleys where they either entirely disappear by evaporation and seepage, or feed saline lakes whose surface fluctuations register the differences of inflow and evaporation. Topographically the region is characterized by narrow isolated mountain ranges with a general north and south trend, between which are broad valleys which have been built up by the accumulation of unconsolidated material from the adjacent mountains. Many of these débris-filled basins are so surrounded and underlaid by the solid rock that they are practically water tight, and where there is a large water supply available the void spaces between the particles of sand and gravel form immense underground storage reservoirs. The region, therefore, affords exceptional opportunity for the study of the phenomenon of the occurrence of water within a catchment area and losses by evaporation.

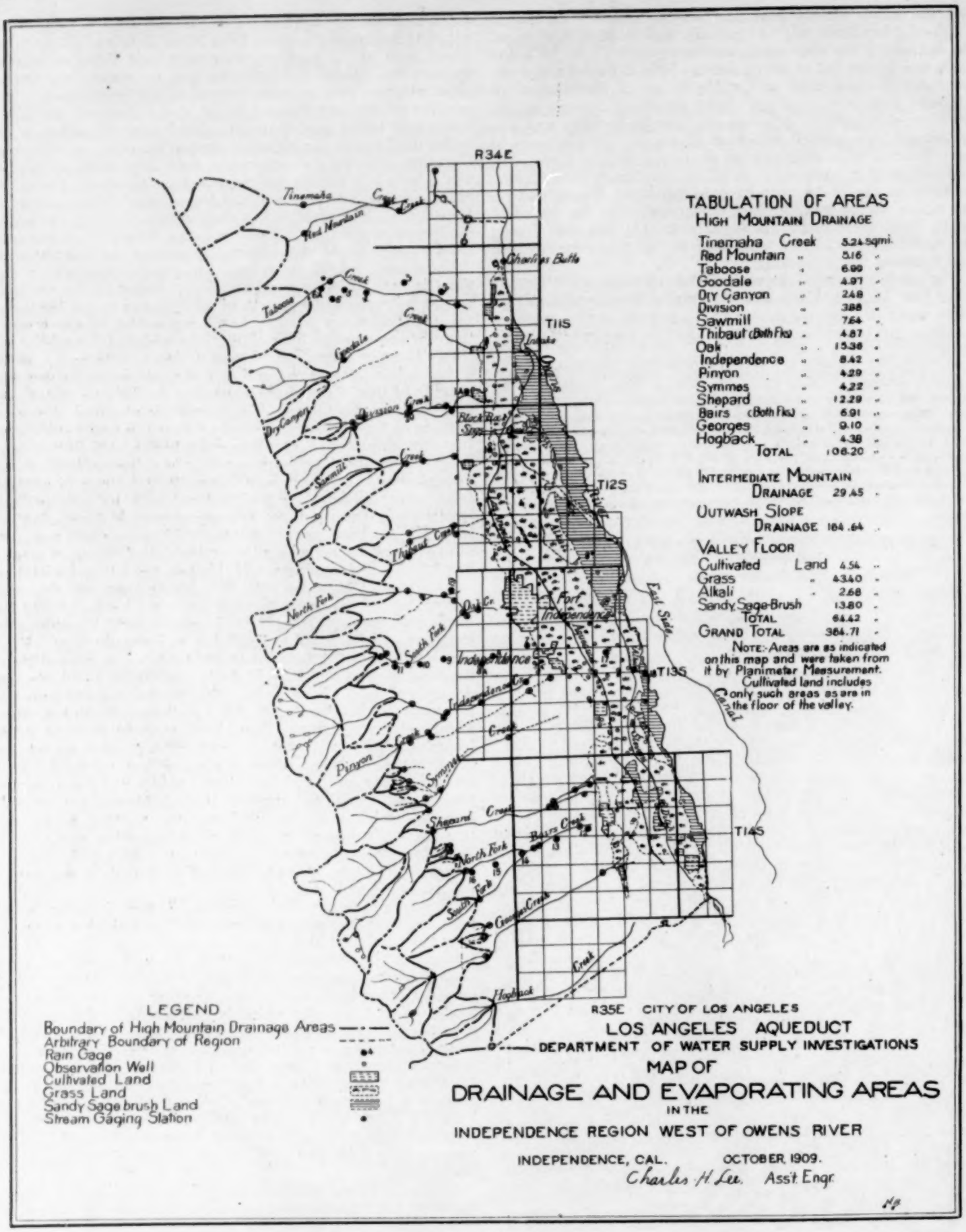
It is from one of these valleys receiving the drainage from the most productive of the Great Basin catchment areas, the east slope of the Sierra Nevada, that the City of Los Angeles is at present preparing to obtain its future supply of water. In connection with this project and under the direction of Mr. William Mulholland, Chief Engineer of the Los Angeles Aqueduct, the writer has had an opportunity during the last two years of making a rather complete field study of the Owens Valley as regards precipitation, run-off, and evaporation. There has now been enough data collected to make complete computations and some of the ideas and conclusions which have been developed are herewith presented.

The Owens Valley (fig. 1) has a length from north to south of about 100 miles and a width from crest to crest of the adjacent mountain ranges of from 20 to 25 miles. The Owens River rises at its northern extremity and flows southward through the valley, finally discharging its waters into Owens Lake, a saline body of water typical of the Great Basin. The position of the river channel is not in the center of the valley, but is close to the base of the Inyo Mountains which border the valley on the east. Lying to the west of the river, at an average elevation of 3,900 feet above sea level, is a plain varying in width from 2 to 5 miles and extending, with but one prominent break, from a few miles north of the town of Bishop almost to Lone Pine. The plain is bounded on the west by the toe of the immense accummulation of alluvial débris which has been piled up at the base of the Sierra Nevada by the many streams debouching from its canyons. In general appearance this plain is very different from the desert slopes to the east and west, for it supports a growth of wild grasses over a large portion of its area, and where it is not washed by surface water is more or less crusted with alkali. An examination of the soil shows it to be damp, and in some places quite moist, a few inches below the surface, and test borings encounter water at a depth of from 2 to 8 feet, depending on the time of the year and the local conditions. Two years' observations in a great number of test wells distributed all over the area have shown that the surface of this ground water has periodic fluctuations. About September 20 of each year it is at its lowest level and its highest level is reached about March 20. Its rate of rise and fall is quite uniform unless interfered with by seepage from local surface water and the average amount of fluctuation is 3 feet. It has been found that the wild grasses will not grow nor the alkali appear where the average depth to water exceeds 8 or 9 feet. The significance of this area will be shown later on.

As already stated, between this grassy plain and the steep eastern face of the Sierra Nevada there is a broad desert slope of alluvial material from 4 to 7 miles in width reaching an elevation of from 6,000 to 7,000 feet at its upper edge. From here rises one of the grandest mountain faces on the continent, reaching elevations of from 13,000 to 14,000 feet in a horizontal distance of 3 or 4 miles. Into this granite slope the glaciers and swift-flowing streams of past ages have cut deep canyons, narrow at the mouth and broad in their upper portions, which form the catchment basins of the 40 tributary streams entering the channel of Owens River at more or less regular intervals throughout its length. The bottoms of many of these canyons are choked by glacial deposits and accumulations of slide material which temporarily absorb the melting snows, and thus have a marked regulating effect upon the stream flow. With this general view of the topography and geology of the Owens Valley region, the subjects of precipitation and run-off will be considered.

There are three types of storms yielding precipitation in this region, namely, the great Pacific coast storms which sweep down from the northwest and swing eastward into the Rocky Mountain region, the Sonora storms from the southwest, and afternoon thunderstorms occurring during July and August, which are local in the high mountains. The first of these yields practically all of the water which is effective in replenishing the streams or increasing the underground supply. A topographic factor controlling the distribution of precipitation from these general storms over a large part of California, and particularly the Owens Valley, is the Sierra Nevada. On the western slope there is a consistent increase of precipitation from the Great Valley to about the 4,000- or 5,000-foot level, and from here a slight decrease until the topographic summit is reached. On the eastern slpoe there is a rapid decrease toward the floor of the Great Basin.

In Owens Valley this inequality of precipitation is strikingly apparent, for the snow-clad mountains tower directly above the desert valley, and all storms which cause rain at San Fran-



TABULATION OF AREAS

HIGH MOUNTAIN DRAINAGE

Tinemaha Creek	5.24	sq mi.
Red Mountain "	5.16	"
Taboose "	6.99	"
Goodale "	4.97	"
Dry Canyon "	2.48	"
Division "	3.88	"
Sawmill "	7.64	"
Thibaut (Both Fks) "	4.87	"
Oak "	15.36	"
Independence "	8.42	"
Pinyon "	4.29	"
Symmes "	4.22	"
Shepard "	12.29	"
Bairs (Both Fks) "	6.91	"
Georges "	9.10	"
Hogback "	4.38	"
TOTAL	106.20	"
INTERMEDIATE MOUNTAIN DRAINAGE	29.45	"
OUTWASH SLOPE DRAINAGE	184.64	"
VALLEY FLOOR		
Cultivated Land	4.54	"
Grass "	43.40	"
Alkali "	2.68	"
Sandy Sage-Brush "	13.80	"
TOTAL	64.42	"
GRAND TOTAL	364.71	"

NOTE:-Areas are as indicated on this map and were taken from it by Planimeter Measurement. Cultivated land includes only such areas as are in the floor of the valley.

FIG. 1.

cisco or Fresno always add their portion to the white covering. The storms which extend out over Owens Valley, however, are few and far between, and when they do occur the yield rapidly decreases eastward from the mountains. At the Sierra crest the normal precipitation varies from about 40 inches at the head of Owens River to 25 inches back of Lone Pine. West of Independence it is about 32 inches at the crest, decreases tc 15 inches at the upper edge of the outwash slopes (6,500-foot level), and is about 4 inches over most of the valley floor. Above the 6,500-foot level the precipitation is all in the form of snow, and at lower elevations occur as both rain and snow, but all values given represent the equivalent depth of water. Most of this precipitation occurs during the months of October to April. In the mountains there is little melting until summer, and the dry snow is soon blown off the exposed ridges into the canyons, where it accumulates in deep drifts. The only loss from it is by direct evaporation. On the alluvial slopes and the valley floor snow seldom remains unmelted more than 2 or 3 weeks.

The run-off conditions met with in the Owens Valley region are extreme. The mountain drainage basins yield all the precipitation upon them as surface flow, except *possibly 15 or 20 per cent which evaporates;* the alluvial slopes yield absolutely no surface run-off, for every drop of water which is not lost immediately by evaporation sinks into the ground; the valley floor sometimes yields flood run-off during a sudden thaw, but ordinarily absorbs all the precipitation falling upon it.

The streams which drain the mountain canyons increase in size from their source to the point where they emerge onto the alluvial slopes, and at this point their flow represents the difference between precipitation upon their catchment basins and evaporation. From here on, however, there are persistent losses by evaporation and by seepage into the porous formation of the valley fill. Careful measurements of 9 streams near Independence have shown that on the average *only 65 per cent of the water appearing at the mouth of canyons reaches a point one-half a mile west of the grass lands of the valley floor and that but 15 per cent reaches Owens River.* Between the first 2 points the evaporation loss is too small to consider, but in the valley floor where the water is used wastefully in irrigation it probably amounts to 30 or 35 per cent of the flow from the mountains. Therefore, in the region near Independence 50 per cent of the yield of these drainage areas is lost by seepage, about 35 per cent by immediate evaporation, and 15 per cent reaches Owens River.

The precipitation upon the alluvial slopes, although it does not appear on the surface, is not a loss, since probably 80 per cent of it sinks into the porous formation on which it falls, and together with the losses from stream channels percolates slowly eastward to join the great body of underground water beneath the valley floor.

The problem which then presented itself in the course of our study was: What becomes of the great volume of water which disappears into the valley fill? Luckily the valley is intersected at two places by rock ridges extending eastward from the base of the Sierra almost to the edge of the alluvial slopes fringing the Inyo Mountains. The cross-sectional area of the valley fill is greatly contracted at these points and much of the underflow southward is forced to the surface and appears in the channel of Owens River. It is thus possible to isolate sections of the valley and by careful measurement determine quantitatively the total volume of water entering the basin and a portion of the volume leaving it. Since the volume still unaccounted for could not accumulate indefinitely without appearing somewhere, there must be a definite outlet for it.

The significance of the meadow lands and the alkali in the valley floor then become apparent. *The water unaccounted for was passing into the atmosphere by evaporation and transpiration from the meadow land.* The fluctuation of the ground water surface represented the variation in the evaporation rate during the year, and the alkali deposit was left behind by the evaporated water. If spread over the 43 square miles of meadow lands in the basin in which Independence is located, the volume of water unaccounted for during one year would have a depth of 3.1 feet, or 56 per cent of the depth of evaporation from an exposed water surface in this region.

To test these conclusions a comprehensive series of tank experiments was planned for the purpose of measuring evaporation losses from soil and meadow grass. These experiments are still in progress, but they already show that, where the water-level is not more than 3 feet nor less than 1 foot below the surface, *that a depth of evaporation of about 80 per cent of that from an exposed water surface can be expected.* The experiments are to be carried on during the coming year for depths greater than 3 feet and under a variety of conditions, so that the results may be reliable as far as is possible under artificial conditions.

There is an interesting practical application of these ideas to the conservation of underground water supplies, which has been suggested by Mr. Mulholland. As noted above, *grasses do not grow, nor is there any alkali deposit where the depth to water exceeds 8 or 9 feet,* and also it has been found that ground-water fluctuations do not here obey the periodic law. It is therefore reasonable to conclude that no appreciable evaporation occurs from soil under such conditions. The lowering of the ground-water level under the meadow land by pumped or flowing wells in large numbers will eventually bring about a condition where evaporation losses will cease. The water that formerly was lost is then available for pumping, and further lowering of the water level will cease unless the pumpage exceeds the inflow into the underground reservoir. It has occurred to the writer that agricultural regions affected by rising ground water and alkali would do well to make a careful study of the local conditions, with these ideas in view.

THE OWENS VALLEY AND THE LOS ANGELES AQUEDUCT.

By A. B. WOLLABER, U. S. Weather Bureau, Los Angeles, Cal.

It is probable that no greater feat of engineering skill was ever attempted by a municipality than that now being carried on by the City of Los Angeles in bringing water from the Owens River, over rough mountains and a vast desert region, a distance of over 200 miles, to the storage reservoirs which will be located in the San Fernando Valley a few miles from the city.

The great Los Angeles Aqueduct is being pushed to completion at an astonishingly rapid rate and the dream of those intrepid engineers, who have every confidence in the practicability of this gigantic undertaking, is fast becoming a reality. The immensity of the project renders it of more than passing interest to the country as a whole, and it will no doubt prove of interest to the readers of the MONTHLY WEATHER REVIEW to know something of this important work, as well as to know something of the hydrological and climatological conditions covering the region whence this water supply is to be taken.

The rights and grants given to the Pueblo of Los Angeles by Spain as early as 1781 included a right to take and use all water of a stream that has since become known as the Los Angeles River, and which forms the outlet of a great subterranean reservoir known as the San Fernando Valley. These rights descended to the present city. It became apparent some years ago that the amount of water to be obtained through the medium of the Los Angeles River would soon be insufficient for the needs of the city, and a careful investigation was made of the possibilities for further water development in the neighborhood. These investigations disclosed the fact that it was practically useless to try to develop more water in this section, as the quantity obtainable would not meet the demands of future years, besides to draw further on the natural resources here would prove a serious menace to the future of the rich agricultural sections outside the city. It was finally determined that the only

source offering water to meet the demands of this rapidly growing young city was that of the Owens River, a stream rising at an elevation of 12,000 feet among the high peaks of the Sierra, a little east of the main crest and about opposite the headwaters of the San Joaquin River.

As at present planned the water from the Owens River will be diverted from the main stream by an intake located at a point in the Owens Valley 2 miles south of Charleys Butte and about 12 miles north of Independence, Cal., at an elevation of 3,814 feet. Here the water will enter an unlined canal and be conveyed in this manner to the Alabama Hills below Lone Pine, Cal., thence through a system of conduits, tunnels, siphons, and flumes to the storage reservoirs in the San Fernando Valley near Los Angeles. Recent figures of the aqueduct engineers give the distances to be covered in this manner as follows:

	Miles.
Unlined canal	20.83
Covered conduit (lined)	100.35
Open conduit (not lined)	41.55
Tunnels	38.51
Siphons	13.08
Flumes	.25
Total	214.57

Several storage reservoirs are contemplated to regulate the flow of water, provide for dry years, breaks in the line, etc., one site having been located in Long Valley, on the Owens River above Round Valley, one at Haiwee on the line of the conduit 60 miles below the heading, and two at the end of the conduit at Fernando. The whole system when completed will provide for the delivery of the greatest possible amount of water from the Owens River and its tributaries at the end of the aqueduct line, thence to be distributed for the purposes intended.

The Owens River drainage basin lies wholly within the State of California, in Inyo and Mono counties, and is located east of the main crest of the Sierra. Its topography is varied. The Inyo and White mountains form its eastern watershed, while the Sierra Nevada Mountains bound it on the west. The basin is about 100 miles in length, has an approximate width of from 20 to 30 miles, and a total area of about 2,800 square miles, including Owens Lake. Its eastern slope is rough and rises to an elevation of some 6,000 feet above the floor of the valley. The western slope is precipitous, the mountains rising abruptly to an elevation of 12,000 feet above sea level, except that there is, in places, a sloping alluvial plain ranging anywhere from 1 to 5 miles in width. The range is dotted with peaks varying in elevation from 13,000 to over 14,500 feet, the highest of which is Mount Whitney.

The Owens Valley is comparatively level and the average elevation of the valley floor is about 3,900 feet. It has a gentle northward rise for a distance of 75 miles, where the grade becomes much steeper and quite rocky. There is a sparse timber growth and also several fertile valleys over the northern slope. While the floor of the valley is extensively cultivated, the slopes are almost devoid of vegetation, except a rank desert growth, and the only timber to be found is in the vicinity of the water courses and around the numerous small glacial lakes near the crest of the range where nearly all of the streams rise. These lakes serve in a way as natural reservoirs, regulating the flow of the streams during the run-off periods.

As previously stated the Owens River from which the City of Los Angeles will take its water supply rises in the high Sierra at an altitude of about 12,000 feet. It flows easterly into Long Valley, thence southward through a deep gorge known as Owens River Canyon, thence east and south through the valley, finally emptying into Owens Lake. The total length of the stream is about 100 miles. It receives no contributions from the valley itself and none from the eastern watershed, the streams that feed it coming wholly from the west. There are many of these creeks having their origin in the high Sierra; some comparatively small, others carrying a good flow of water, but all draining the east slope of the Sierra and deriving their supply from the melting snows. According to the engineers of the United

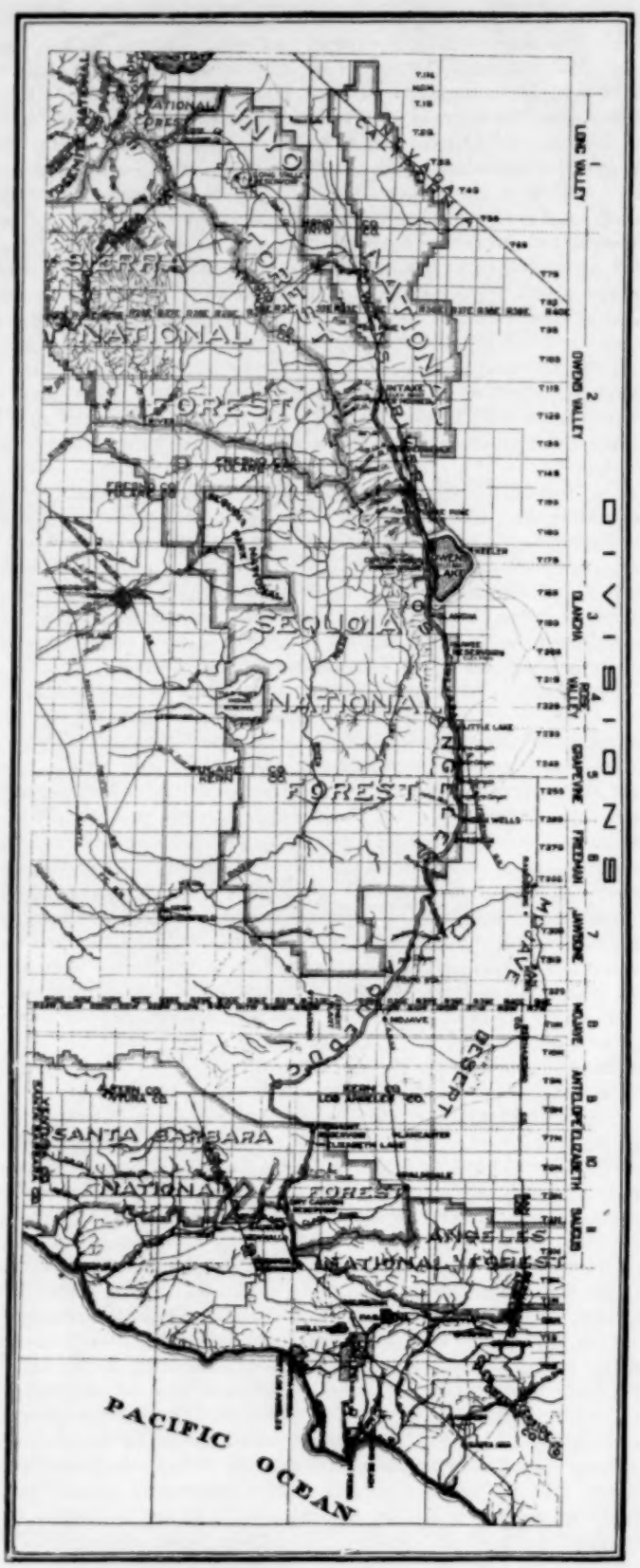


FIG. 1.—Showing line of the proposed Aqueduct from Owens Valley to Los Angeles, Cal.

States Geological Survey these streams have "a minimum flow in February and a maximum flow in June, their combined maximum being about 10 times their combined minimum". Of these tributaries the principal are Rocky, Pine, Horton, McGee, Birch, Bishop, Coyote, Baker, Big Pine, Tinemah, Taboose, Goodale, Division, Sawmill (Eight Mile), Thibaut, Oak, Shepard, Bairs (Moffit), Georges, Hogback, Lone Pine, Tuttle, Richter, Cottonwood, and Ash creeks. By courtesy of the engineers of the Los Angeles Aqueduct we are able to present a table showing the drainage areas of the principal streams emptying into the Owens River, from Taboosh to Ash Creeks. The data are compiled from the topographic maps of the United States Geological Survey:

Creek.	Total area.	Area above 8,000 feet.
	Sq. mi.	*Sq. mi.*
Taboose	7.1	6.1
Goodale	8.5	6.0
Division	7.0	4.4
Eight Mile	7.5	6.2
Oak	26.1	14.5
Independence	19.2	13.7
Shepard	12.5	11.6
Moffit	7.0	5.7
Georges	9.8	9.1
Lone Pine	14.0	12.6
Tuttle	8.5	7.3
Cottonwood	42.6	36.3
Ash	14.7	9.1

The creeks in this series having the most well-sustained flow in low-water period are Taboose, Division, Eight-mile, and Cottonwood. Those having the largest total yearly discharges are Taboose, Oak, Independence, Lone Pine, and Cottonwood.—*First Annual Report Los Angeles Aqueduct, 1907.*

The climatic features of the Owens Valley are pretty well known through the medium of the regular Weather Bureau office maintained at Independence since 1898. The conditions at that point are fairly typical of the valley proper, except that in all probability there is an increase in precipitation over the western and northern slopes, due to overreaching storms at the summit of the range. The accompanying table gives the precipitation at Independence and shows an average of 4.22 inches annually.

Careful estimates place the average annual precipitation for the whole valley in the neighborhood of 6 inches. Little is known except in a very general way of the distribution of rainfall over the higher levels, and the only way whereby any idea can be formed of this amount is by comparison with that on the westward side of the range where records have been kept for a number of years. The moisture-bearing winds of the Pacific deposit great quantities of precipitation on the westward side of the Sierra, the increase being rapid from the valley floor up to between the 3,500 and 5,000 foot levels, after which there is a decrease to the summit. The increase with elevation amounts to from 40 to 80 inches annually, and it is quite probable that the average fall at and just east of the summit is in the neighborhood of 50 inches. It is from this source of supply that all of the tributaries of the Owens River derive their run-off. About a year ago the aqueduct engineers placed a series of rain gages at different elevations on Taboose, Oak, and Bairs creeks in order to obtain a record of the precipitation over a part of the drainage basins of these streams. These are 3 groups consisting of 5 gages each, located as nearly as practicable at each 500-foot level, beginning at an elevation of approximately 4,000 feet. The accompanying tables, furnished by Mr. Chas. H. Lee, Assistant Engineer of the Los Angeles Aqueduct, give the locations of the gages and the record obtained during the season of 1908–1909. (See map on page 128.)

Number of gage.	Group.	Elevation of gage.	Distance from crest of Sierra.	Remarks.
		Feet.	*Miles.*	
1		3,820	8.0	In valley floor.
2	Taboose	4,070	8.6	At edge of valley floor.
3	do	4,460	6.85	On outwash slope.
4	do	5,040	5.5	Do.
5	do	5,550	4.7	At base of mountain.
6	do	6,190	4.2	On slope of mountain.
7	Oak	3,940	9.6	At edge of valley floor.
8	do	4,300	8.35	On outwash slope.
9	do	5,030	6.55	Do.
10	do	5,590	5.65	Do.
11	do	6,120	4.75	At base of mountain.
12	Bairs	4,100	10.2	At edge of valley floor.
13	do	4,500	8.95	On outwash slope.
14	do	5,000	7.7	Do.
15	do	5,500	6.6	Do.
16	do	6,100	5.6	At base of mountain.
U. S. W. B. at Independence		3,925	9.6	At edge of valley floor.

This record shows quite a uniformity in the amounts collected on Taboose and Oak creeks during the first year, but considerably less amounts on Bairs Creek. This decrease is probably due to the general decrease of the precipitation toward the south and to the presence of Mount Whitney, near whose base this stream flows. A study of the records obtained from these gages for a number of years will prove extremely interesting, as in this manner some idea can be obtained of the distribution of precipitation over the eastern slope of the range. During the summer of 1909 the Weather Bureau established mountain snowfall stations at the Bishop Creek Gold Company's camp on Bishop Creek and at the Wells Meadow Ranger Station in Round Valley, but no records have as yet been obtained from either station. The abundant discharges of the several creeks flowing from the snow fields near the summit of the Sierra give the best evidence of the generous precipitation near their headwaters. Through the courtesy of the engineer in charge of the hydrological work of the United States Geological Survey in this State we are enabled to give a table showing the run-off of the Owens River and its tributaries for the last several years. The longest run-off record in the Owens River Basin extends back to 1903, when gaging stations were established on the main stream and on Rock and Pine creeks near Round Valley and on Bishop Creek near Bishop. Since that time stations have been put in on all of the principal tributaries. Records are now being kept at the following points throughout the drainage basin:

Owens River near Round Valley.
Owens River near Los Angeles Aqueduct intake.
Rock Creek near Round Valley.
Pine Creek near Round Valley.
Bishop Creek near Bishop.

Monthly, seasonal, and annual precipitation, 1898–1909, at Independence, Cal.

Season.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	Seasonal.	Year.	Annual.
1898–99	T.	0.11	0.26	0.00	0.10	0.20	0.54	T.	0.01	0.02	0.03	0.37	1.58	1899	2.75
1899–1900	0.01	0.06	T.	0.30	0.85	0.56	0.31	0.05	0.67	0.62	0.22	0.04	3.69	1900	4.22
1900–01	0.08	T.	0.75	0.01	1.34	0.13	2.81	0.64	0.05	T.	0.36	0.00	6.17	1901	5.21
1901–02	0.10	0.32	0.00	0.65	0.22	0.06	0.04	1.69	1.05	0.17	0.04	0.01	4.35	1902	3.83
1902–03	0.17	0.13	T.	0.08	0.41	0.04	0.71	0.27	0.34	0.19	T.	0.02	2.36	1903	1.95
1903–04	0.00	0.00	T.	0.42	T.	0.00	T.	1.20	0.95	T.	0.02	0.00	2.59	1904	3.82
1904–05	T.	0.07	0.32	0.06	0.00	T.	0.54	0.73	2.08	T.	0.22	0.00	4.05	1905	4.28
1905–06	0.00	T.	0.25	0.00	0.43	T.	2.89	0.13	1.86	0.36	0.42	0.10	6.44	1906	6.97
1906–07	0.31	0.04	0.00	T.	0.02	0.84	0.95	0.56	1.10	0.14	0.01	0.55	4.52	1907	5.85
1907–08	T.	0.00	0.00	2.12	T.	0.42	1.63	0.98	0.14	T.	T.	T.	5.29	1908	4.55
1908–09	0.26	0.46	0.84	0.03	0.01	0.20	3.27	2.73	0.16	0.12	T.	T.	8.08	1909	.....
Averages (11 years)	0.08	0.12	0.21	0.33	0.31	0.22	1.24	0.82	0.76	0.15	0.12	0.10	4.47	.....	4.22

Precipitation records near Independence, Cal., 1908–09.

Number of gage.	Station.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Total.
		Ins.	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*
1	Taboose	(0.84)	0.14	T.	0.16	3.51	3.00	0.23	0.22	0.00	0.00	0.00	(0.20)	8.30
2	do.	(0.85)	0.06	(T.)	0.15	4.52	3.22	0.24	T.	0.00	0.00	0.00	(0.05)	9.09
3	do.	(0.85)	0.04	(T.)	0.27	4.85	4.02	0.28	0.04	0.00	0.00	0.00	(0.05)	10.40
4	do.	(5.90)	0.05	(T.)	0.26	6.32	3.77	6.37	0.02	0.00	0.00	0.00	(0.05)	11.74
5	do.	(0.95)	0.12	(0.10)	0.28	8.93	5.23	0.80	0.02	0.00	0.00	0.00	(0.10)	16.53
6	do.	(1.00)	(0.17)	(0.15)	(0.12)	(12.69)	7.49	1.42	0.05	0.00	0.00	0.00	(0.15)	23.24
7	Oak	(0.85)	(0.04)	T.	0.19	3.44	2.52	0.12	0.02	0.00	0.00	0.00	0.04	7.22
8	do.	(0.85)	(0.05)	T.	0.21	4.65	3.06	0.36	0.00	0.00	0.00	0.00	0.06	9.24
9	do.	(0.90)	(0.06)	T.	0.25	5.89	3.49	0.71	0.00	0.00	0.00	0.00	0.05	11.35
10	do.	(0.95)	(0.10)	0.08	0.25	7.69	4.62	0.71	0.00	0.00	0.00	0.00	0.07	14.47
11	do.	(1.00)	(0.15)	0.23	0.31	11.49	6.61	1.08	0.02	0.00	0.00	0.00	0.15	21.04
12	Bairs	(0.85)	T.	(T.)	0.22	1.53	1.53	0.15	T.	0.00	0.00	0.00	T.	4.28
13	do.	(0.85)	T.	(T.)	0.26	2.67	2.06	0.15	0.00	0.00	0.00	0.00	0.10	6.09
14	do.	(0.90)	T.	(T.)	0.27	3.48	2.56	0.29	0.00	0.00	0.00	0.00	0.13	7.63
15	do.	(0.95)	0.14	(0.10)	0.29	5.05	4.36	0.63	T.	0.00	0.00	0.00	0.15	11.67
16	do.	(1.00)	0.28	(0.15)	0.29	6.43	4.98	1.00	0.07	0.00	0.00	0.00	0.14	14.34
U. S. Weather Bureau, at Independence		0.84	0.03	0.01	0.20	3.27	2.73	0.16	0.12	T.	T.	0.00	0.25	7.61

Values in parentheses are estimated by C. H. Lee.

Baker Creek near Big Pine.
Big Pine Creek near Big Pine.
Birch Creek near Tinemaha.
Tinemaha Creek near Tinemaha.
Taboose Creek near Tibbetts.
Goodale Creek near Tibbetts.
Division Creek near Tibbetts.
Sawmill (Eight Mile) Creek near Independence.
Thibaut Creek near Independence.
Oak Creek near Independence.
Independence Creek near Independence.
Shepards Creek near Thebe.
Bairs (Moffit) Creek near Independence.
Georges Creek near Thebe.
Lone Pine Creek near Lone Pine.
Tuttle Creek near Lone Pine.
Cottonwood Creek near Olancha.
Ash Creek near Olancha.

The following table shows the mean yearly discharge of the Owens River and its principal tributaries:

Gaging stations.	1904	1905	1906	1907	1908
	Sec.-ft	*Sec.-ft.*	*Sec.-ft.*	*Sec.-ft.*	*Sec.-ft.*
Owens River near Round Valley	287.0	216.0	358.0	381.0	241.0
Rock Creek near Round Valley	40.3	26.2	63.7	60.0	31.0
Pine Creek near Round Valley	34.0	16.6	44.4	46.7	14.7
Bishop Creek near Bishop	111.0	83.5	166.0	12.6	78.7
Big Pine Creek near Big Pine	49.1	53.5	.....	58.0	40.0
Taboose Creek near Tibbetts	.....	.....	12.1	9.5	5.1
Goodale Creek near Tibbetts	.....	.....	6.0	5.9	3.9
Division Creek near Independence	.....	.....	9.7	10.2	7.1
Oak Creek near Independence	.....	.....	35.0	22.7	15.0
Independence Creek near Independence	.....	15.1*	31.1	21.8	11.2
Shepards Creek near Thebe	.....	.....	.....	11.0	7.4
Bairs Creek near Independence	.....	.....	.....	4.7	1.9
Georges Creek near Thebe	.....	.....	.....	9.4	7.0
Lone Pine Creek near Lone Pine	.....	.....	31.1	23.0	19.6
Tuttle Creek near Lone Pine	.....	.....	15.4	9.9	8.2
Cottonwood Creek near Olancha	.....	.....	75.8	40.4	27.8
Ash Creek near Olancha	.....	.....	8.8	10.0	5.1

* For June to December.

FLOODS IN SOUTHERN CALIFORNIA.

By A. B. WOLLABER, Local Forecaster, Los Angeles, Cal.

From December 30, 1909, to January 2, 1910, heavy rains fell in southern California. In the valleys the amounts ranged between 3 and 4 inches, while in the foothills and mountains, to the north and east, from 10 to 16 inches fell during the storm. The rain was accompanied by warmer weather than usual and the snow on the higher levels melted rapidly, causing a rapid rise in all mountain streams, which soon became raging torrents carrying a heavy flow to the valleys below. Even the small washes that have been dry for years were running bank full and while nearly all streams overflowed their banks in places the greatest damage was done by the San Gabriel River, which left the new bed formed by this stream during the flood of 1874 and returned to the old channel, inundating many acres of rich farming land and orchards and carrying out bridges in many places. The area flooded by this stream in the vicinity of Los Angeles was about 5 miles long and from ½ to ¾ of a mile in width. Near Santa Ana several hundred acres of rich celery land were also covered and that portion of the crop not already marketed was practically ruined.

Railroads, both steam and electric, suffered the most damage, all transcontinental trains being badly delayed by washouts, while the suburban service to the flooded districts had to be abandoned. It is difficult to estimate the loss occasioned by the flood, but conservative estimates place the total in this section between $200,000 and $250,000.

No river and flood service is maintained by the Bureau in this section and no warnings were issued, except the usual rain warnings sent out before each big storm.

FIG. 2.—Snow fields near the top of the Kearsage Trail, Sierra Nevada Mountains, to the West of Independence, Owens Valley, Cal., July 10, 1909, at an elevation of 10,000 feet.

FIG. 3.—Snow field and open water in lake on the Kearsage Trail, July 10, 1909.

FIG. 4.—Snow in the forest near lake on the Kearsage Trail, July 10, 1909.

TABLE 1.—*Climatological data for January, 1910. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency	Klamath	4,169	2	20.6	.....	39	30	−21	5	39	1.40	.....	0.45	14.0	4	13	7	11	s.	H. J. Wilson.
Klamath Falls	....do	4,250	15	24.2	− 6.2	47	23	− 3	3†	30	1.66	− 0.99	0.35	14.4	12	1	10	20	nw.	W. H. Heileman.
Lakeview	Lake	4,800	7	26.3	− 3.2	50	20†	− 4	11	44	1.26	− 1.42	0.25	5.5	9	7	6	18	s.	Geo. L. Wharton, jr.
Merrill	Klamath	4,070	4	25.0	.....	50	23	− 4	5	31	0.88	.....	0.50	4.6	5	5	11	15	.....	D. H. Ward.
Yonna	....do	.....	3	24.8	.....	47	28	− 7	5†	42	0.97	.....	0.12	7.3	16	3	25	3	s.	Jacob Rueck.
California.																				
Alameda	Alameda	.....	1	47.0	.....	62	17	27	3	28	4.10	.....	0.50	0.0	13	13	3	15	s.	Chas. E. Sears.
Alturas	Modoc	4,460	6	22.0	.....	51	23†	−30	3	45	1.27	.....	0.34	11.0	13	8	11	12	s.	Prof. C. B. Towle.
Anderson (near)	Shasta	550	1	40.9	.....	66	30	24	3	27	3.78	.....	0.56	2.8	19	9	3	19	n.	C. S. Richardson.
Angiola	Tulare	208	10	32.4	−12.4	45	20†	20	27†	21	0.66	− 0.43	0.33	0.0	2	19	2	10	nw.	Santa Fe Co.
Antioch	Contra Costa	46	31	47.4	+ 0.9	68	27†	30	3	....	1.70	− 0.69	0.60	0.0	6	10	12	9	nw.	Southern Pacific Co.
Aptos	Santa Cruz	102	25	46.5	− 2.0	63	22	27	3	....	5.06	+ 0.31	1.18	0.0	12	9	10	12	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	1	52.0	.....	81	13	31	4	42	4.13	.....	2.46	1.5	4	18	7	6	ne.	G. I. Royce.
Auburn	Placer	1,360	39	42.1	− 3.5	67	3	22	5	37	8.89	+ 3.01	1.80	4.0	10	11	2	18	.....	Southern Pacific Co.
Avalon	Los Angeles	.....	.....	51.3	.....	73	21	39	6	21	1.12	.....	0.61	0.0	6	14	10	7	w.	W. N. Vilas.
Azusa	....do	540	8	50.6	.....	84	22	27	6	43	1.92	.....	1.63	0.0	5	23	3	5	.....	A. P. Griffith.
Bagdad	San Bernardino	784	7	51.3	.....	78	13†	27	6	44	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	Santa Fe Co.
Bakersfield	Kern	404	21	47.4	− 0.7	76	23	30	4	32	1.15	+ 0.04	0.73	0.0	4	12	12	7	.....	Do.
Barstow	San Bernardino	2,105	7	41.8	.....	70	30	19	5	40	1.02	.....	0.50	0.0	3	29	0	2	w.	E. L. White.
Berkeley	Alameda	317	23	44.2	− 6.4	55	22	30	3	15	3.38	− 1.90	0.98	0.0	13	8	13	10	s.	State University
Biggs	Butte	98	11	49.1	+ 4.5	65	31	20	3	....	2.36	− 1.87	0.95	0.0	6	15	8	8	s.	Southern Pacific Co.
Bishop	Inyo	4,450	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Chalfant.
Blocksburg	Humboldt	1,700	4	38.8	.....	60	21†	18	4	26	9.55	.....	1.42	12.0	18	2	6	23	se.	Victor Hope.
Blue Canyon	Placer	4,695	11	34.2	− 5.5	59	31	8	4	23	12.75	+ 2.60	2.20	110.0	13	11	2	18	s.	Southern Pacific Co.
Blythe	Riverside	.....	1	47.0‡	.....	77‡	31	24‡	6†	44‡	0.77	.....	0.72	0.0	2	.....	.....	.....	.....	H. V. Blenkiron.
Branscomb	Mendocino	2,000	10	36.5	− 8.5	63	30	18	3	32	12.74	− 2.17	2.03	14.5	19	7	6	18	se.	A. J. Haun.
Brawley	Imperial	− 105	1	50.5	.....	70	31	24	6	44	0.15	.....	0.09	0.0	2	14	10	7	nw.	U. S. Weather Bureau.
Brush Creek	Butte	2,140	6	36.0	.....	55	30	14	4†	24	8.48	.....	2.37	22.0	15	11	3	17	s.	Cal. Gas & Electric Co.
Calexico	Imperial	0	5	51.4	.....	76	22†	24	6	38	T.	.....	T.	0.0	0	14	13	4	nw.	J. E. Peck.
Caliente	Kern	1,290	34	.....	.....	.....	.....	.....	.....	.....	1.40	− 0.00	1.00	0.0	3	.....	.....	.....	.....	Southern Pacific Co.
Calistoga	Napa	363	38	43.8	− 4.3	70	26†	20	1†	....	.....	− 0.55	2.04	0.0	8	9	0	22	s.	Do.
Campbell	Santa Clara	217	13	44.0	− 3.5	59	23	25	3	27	2.30	− 0.40	0.52	0.0	10	8	8	15	se.	F. M. Righter.
Camptonville (near)	Yuba	3,500	3	39.2	.....	66	30	14	4†	40	15.47	.....	3.03	59.0	13	13	2	16	.....	S. B. Johnson.
Cedarville	Modoc	4,675	16	23.0	− 8.5	50	31	−15	3	37	1.23	− 0.18	0.31	18.5	8	16	14	1	w.	T. H. Johnstone.
Chico	Butte	189	40	43.1	− 3.8	63	30	18	15	30	3.77	− 0.69	0.76	0.0	13	10	1	20	s.	Butte County R. R. Co.
China Flat	Humboldt	600	1	41.5	.....	59	30	18	4†	21	7.11	.....	1.10	0.5	15	4	11	16	.....	O. I. Westerburg.
Chino	San Bernardino	714	18	48.7	− 1.7	72	23	29	8†	....	4.92	+ 1.11	2.36	0.0	4	22	0	9	se.	Southern Pacific Co.
Cisco	Placer	5,939	39	32.1	+ 1.4	48	20†	8	4†	....	15.60	+ 6.40	3.00	144.0	13	14	0	17	.....	Do.
Claremont	Los Angeles	1,200	18	50.0	+ 0.3	84	22	28	5†	39	2.93	− 0.51	1.23	0.0	9	22	4	5	n.	F. P. Brackett.
Cloverdale	Sonoma	340	8	43.1	.....	67	30	20	1	32	7.48	.....	1.42	0.0	17	11	7	13	n.	Lloyd Browne.
Colfax	Placer	2,421	39	36.0	− 8.4	65	31	20	3†	31	9.96	+ 1.21	2.50	18.8	13	13	2	16	se.	Southern Pacific Co.
Colusa	Colusa	60	7	42.2	− 3.2	68	30	27	5	29	2.60	− 0.02	0.70	0.0	7	.....	.....	.....	.....	W. K. De Jarnatt.
Corning	Tehama	277	24	44.5	− 0.7	54	25	29	4	....	2.26	− 2.25	0.70	0.0	6	12	3	16	n.	Southern Pacific Co.
Cuyamaca (1)	San Diego	4,677	11	38.0	+ 1.0	68	22	11	12	31	6.33	+ 0.14	2.65	21.0	6	9	14	8	e.	L. L. Macquarie.
Daunt	Tulare	4,000	3	41.4	.....	70	22	13	4†	40	5.10	.....	1.80	49.0	7	10	10	11	.....	D. L. Wishon.
Davisville	Yolo	51	38	40.5	− 7.1	61	30	16	15	29	1.75	− 1.76	0.50	0.0	11	3	10	18	s.	S. H. Beckett.
Deer Creek	Nevada	3,700	3	32.6	.....	58	30	5	4	32	10.13	.....	3.00	65.0	13	10	3	18	.....	Cal. Gas & Electric Co.
Delta	Shasta	1,138	25	42.3	+ 0.5	70	30	19	4	35	12.06	+ 2.97	1.95	7.0	16	7	0	24	n.	Southern Pacific Co.
Denair	Stanislaus	126	10	43.6	− 1.9	67	31	26	3	32	1.56	− 0.41	0.95	0.0	11	13	4	14	se.	Santa Fe Co.
Dobbins	Yuba	1,650	6	43.6	.....	66	30	26	3†	28	7.16	.....	1.44	0.0	18	6	13	12	.....	Cal. Gas & Electric Co.
Dudleys	Mariposa	3,000	1	36.0	.....	61	21†	2	4	36	6.05	.....	1.05	20.0	12	12	2	17	s.	W. H. Dudley.
Dunnigan	Yolo	65	33	43.4	− 2.9	60	23	30	18†	....	3.58	− 0.78	1.13	0.0	8	14	4	13	s.	Southern Pacific Co.
Dunsmuir	Siskiyou	2,285	21	34.4	− 4.5	53	30	16	5	....	9.00	− 0.76	2.56	46.0	16	8	0	23	s.	Do.
Durham	Butte	160	15	42.0	− 3.2	64	30	19	5	32	3.97	− 0.26	1.07	0.0	8	8	11	12	n.	R. W. Durham
El Cajon	San Diego	482	11	50.2	− 3.6	78	21	26	6	42	2.72	+ 0.57	1.05	0.0	7	23	5	3	sw.	H. H. Kessler.
Electra	Amador	725	6	45.3	.....	65	30	27	5	29	5.67	.....	1.32	3.5	9	11	9	11	.....	Cal. Gas & Electric Co.
Elsinore	Riverside	1,234	15	46.7	− 3.6	80	22	20	6	47	3.74	+ 1.25	1.89	0.0	7	19	3	9	n.	W. H. Bohannon.
Emigrant Gap	Placer	5,230	36	32.2	− 2.7	58	19†	8	2	38	14.80	+ 4.55	3.00	138.0	10	12	2	17	sw.	Southern Pacific Co.
Escondido	San Diego	657	16	50.9	+ 1.3	84	22	26	6	41	4.03	+ 0.80	1.64	0.0	6	8	21	2	w.	A. R. Moon.
Eureka	Humboldt	64	24	44.6	− 2.3	65	22	28	4	26	7.26	− 0.33	1.85	0.0	22	4	9	18	se.	U. S. Weather Bureau.
Farmington	San Joaquin	111	31	42.1	− 3.6	59	29	22	5	....	3.24	+ 0.30	1.43	0.0	9	10	4	17	nw.	Southern Pacific Co.
Folsom	Sacramento	252	38	43.8	− 3.4	63	30	24	5	36	4.11	− 0.41	1.64	0.5	10	13	1	17	n.	F. O. Hutton.
Fordyce Dam	Nevada	6,500	15	26.8	.....	44	22	−10	4	36	10.35	− 1.36	1.85	109.0	16	11	6	14	sw.	E. E. Roening.
Fouts Springs	Colusa	1,650	6	41.4	.....	62	29	26	25	32	6.57	.....	1.54	3.2	14	.....	.....	.....	.....	H. S. Green.
Fresno	Fresno	293	23	44.4	− 1.0	69	31	25	5	28	1.22	− 0.10	0.26	0.6	7	4	10	17	nw.	U. S. Weather Bureau.
Fruto	Glenn	624	21	40.4	− 6.7	61	31	26	3†	....	2.92	− 1.57	0.80	T.	7	13	0	18	s.	Southern Pacific Co.
Galt	Sacramento	49	32	44.4	− 2.9	72	27	26	5	....	3.61	+ 0.14	1.70	0.0	8	5	0	26	sw.	Do.
Georgetown	El Dorado	2,650	37	39.1	− 7.3	62	31	14	4	28	10.70	+ 0.47	2.29	19.5	15	9	2	20	e.	H. D. Jerrett.
Gilroy	Santa Clara	193	36	45.4	− 1.1	60	26†	26	5	....	5.79	+ 1.26	1.25	0.0	13	15	0	16	s.	Southern Pacific Co.
Gold Run	Placer	3,222	11	37.7	− 7.1	63	31	12	4	23	7.55	− 0.36	1.85	34.0	10	13	1	17	se.	Do.
Gonzales	Monterey	127	11	50.1	+ 2.0	78	19	26	5	....	2.87	+ 0.33	1.38	0.0	9	14	0	17	s.	Do.
Grass Valley	Nevada	2,690	38	38.4	.....	62	30	12	4	30	7.64	− 2.43	2.24	30.5	12	9	3	19	s.	F. R. Hull.
Greenville	Plumas	3,600	16	29.8	− 3.4	55	23	−10	5	42	8.50	+ 0.43	2.48	70.0	10	9	3	19	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	1	38.1	.....	63	23†	9	4	31	7.94	.....	1.74	15.0	10	9	11	11	.....	H. S. Richardson.
Guinda	Yolo	350	12	38.9	− 6.9	56	30	23	18	....	4.46	− 1.20	1.70	0.0	7	10	8	13	.....	Southern Pacific Co.
Hanford	Kings	249	10	45.1	+ 1.0	65	5	27	5	38	2.40	+ 0.69	0.60	0.0	5	20	0	11	.....	Santa Fe Co.
Healdsburg	Sonoma	110	17	42.4	− 2.2	62	28	20	5	27	6.51	− 5.33	1.31	0.0	16	6	7	18	n.	John Favour.
Hearst	Mendocino	1,800	....	33.4	.....	40	9†	23	25	9	10.62	.....	1.50	19.0	14	5	5	21	nw.	H. D. Ellmaker.
Heber	Imperial	− 20	4	51.1	.....	80	22†	21	6	45	0.27	.....	0.27	0.0	1	22	4	5	w.	E. T. Chumard.
Hollister	San Benito	284	36	45.4	− 3.4	66	23	24	5	28	3.94	+ 1.46	1.58	1.5	10	12	9	10	n.	J. N. Thompson.
Hornbrook	Siskiyou	2,154	22	32.0	− 3.0	42	21	17	5	....	0.85	− 1.19	0.50	3.5	3	19	7	5	n.	Southern Pacific Co.
Hot Springs	Tulare	3,300	3	36.8	.....	68	24	17	5	36	3.15	.....	1.00	4.5	6	17	7	7	n.	U. S. Forest Service.
Hullville (near)	Lake	2,250	3	35.9	.....	61	30	10	5	34	8.58	.....	1.67	12.0	18	2	11	18	se.	John Duggan.
Idyllwild	Riverside	5,250	9	39.6	.....	70	23	11	5	35	5.20	.....	2.10	20.5	4	17	6	8	sw.	Earl Powers.
Independence	Inyo	3,907	14	35.6	− 4.9	60	23	10	5	34	0.25	− 0.97	0.23	2.3	2	19	9	3	.....	U. S. Weather Bureau.
Indio	Riverside	− 70	32	52.0	− 0.9	82	29	23	6	44	0.47	− 0.40	0.27	0.0	2	15	11	5	nw.	F. N. Johnson.
Inskip	Butte	4,975	3	30.7	.....	52	29	10	4	28	14.33	.....	3.97	88.0	13	7	4	20	.....	Cal. Gas & Electric Co.
Ione	Amador	287	32	43.5	− 3.1	63	1	23	5	....	4.43	+ 1.55	2.00	1.0	7	15	0	16	sw.	Southern Pacific Co.
Iowa Hill	Placer	2,825	29	39.4	− 4.0	66	30	16	4	28	8.77	+ 0.25	2.31	27.0	13	11	0	20	sw.	C. F. Macy.
Jamestown	Tuolumne	1,471	7	41.0	.....	64	31	14	4	29	6.40	.....	1.50	17.0	11	14	8	9	.....	Sierra Ry. of California.
King City	Monterey	333	23	42.0	− 6.4	72	2	18	5	48	2.67	+ 0.62	1.83	0.0	8	21	0	10	s.	Southern Pacific Co.
La Porte	Plumas	5,000	16	30.0	− 3.4	54	30	4	4	33	15.67	+ 0.86	3.42	79.3	18	9	4	18	n.	C. W. Hendel.
Le Grand	Merced	255	10	43.2	− 2.7	60	31	25	6	25	2.10	+ 0.54	0.70	5.0	5	18	0	13	.....	Santa Fe Co.
Lemon Cove	Tulare	600	15	46.2	− 2.0	77	24	25	4†	39	2.78	+ 0.10	0.93	0.0	5	10	4	17	n.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	21	35.6	− 4.1	59	30	19	3	19	7.29	+ 2.56	2.00	22.5	16	9	9	13	s.	The Director.
Livermore	Alameda	485	39	44.8	− 4.5	63	13†	26	3	31	2.50	− 0.31	0.79	0.0	13	10	5	16	ne.	E. G. Still.
Lodi	San Joaquin	45	28	42.8	− 3.4	59	22	22	5	25	2.35	− 1.36	0.76	0.0	9	9	8	14	se.	Ezra Fiske.

TABLE 1.—*Climatological data for January, 1910. District No. 11*—Continued

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
California—Cont'd.																			
Lone Pine	Inyo	2,728	5	36.2	.....	60	29†	14	4†	40	T.	.....	T.	0.0	0	15	13	3	s.	G. F. Marsh.
Long Valley	Lassen	4,400	1	22.7	.....	47	23	− 5	5	32	2.20	.....	0.55	18.5	7	7	0	24	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	33	53.7	+ 0.6	81	22	33	5	30	1.53	− 1.40	0.72	0.0	6	13	11	7	ne.	U. S. Weather Bureau.
Los Banos	Merced	121	23	45.2	− 1.3	64	30	27	5	...	3.22	+ 1.70	2.35	0.0	4	10	0	21	s.	Southern Pacific Co.
Los Gatos	Santa Clara	600	23	45.1	− 2.5	64	23†	29	3	24	6.94	+ 0.37	1.60	0.0	13	10	4	17	s.	F. H. McCullagh.
Lytle Creek	San Bernardino	2,900	1	44.3°	.....	76	22	21	4	29	8.19	.....	5.50	10 0	4	11	10	10	.....	W. E. Anderson.
Macdoel	Siskiyou	4,238	3	23.7	.....	46	30	−13	3	34	2.42	.....	1.03	12.0	8	9	9	13	s.	Butte Valley L'd Co.
Madeline	Lassen	5,270	1	21.6	.....	47	22	−25	5	47	2.05	.....	0.60	20.5	12	7	11	13	nw.	J. H. Williams.
Magalia	Butte	2,321	6	38.0	.....	60	28	12	3†	35	13.31	.....	3.98	13.5	14	11	5	15	s.	Butte County R. R. Co.
Mammoth Tank	Imperial	257	32	52.4	− 1.5	80	21	28	7	38	0.52	+ 0.35	0.50	0.0	2	16	13	2	w.	Southern Pacific Co.
Marysville	Yuba	67	39	47.7	− 0.7	73	12	19	5	33	4.20	+ 1.07	1.27	0.0	7	18	0	13	s.	Do.
Mecca	Riverside	− 185	4	50.0	.....	79	21	20	6	44	0.25	.....	0.15	0.0	2	23	6	2	se.	A. Lunsted.
Menlo Park	San Mateo	64	32	46.5	− 0.8	58	13†	28	5	...	3.37	+ 0.33	0.90	0.0	8	10	0	21	s.	Southern Pacific Co.
Merced	Merced	173	36	48.6	+ 1.6	66	24†	28	4†	30	2.77	+ 0.67	1.00	0.0	7	17	0	14	nw.	Santa Fe Co.
Mill Creek (1)	Amador	.....	3	36.0	.....	56	31	15	4	24	9.10	.....	2.33	32.0	11	11	3	17	n.	Cal. Gas & Electric Co.
Milton (near)	Calaveras	660	19	43.6	− 3.4	61	31	26	4†	19	1.90	− 2.29	0.56	1.0	8	7	12	12	se.	J. H. Southwick.
Modesto	Stanislaus	90	38	42.9	− 3.7	55	13†	28	5	...	2.25	+ 0.41	0.90	0.0	6	19	0	12	.....	Southern Pacific Co.
Mojave	Kern	2,751	33	43.2	− 2.1	69	27	19	17†	42	0.00	− 0.90	0.00	0.0	0	27	0	4	.....	Do.
Mokelumne Hill	Calaveras	1,550	17	42.4	+ 0.6	65	31	24	3†	33	4.96	+ 0.29	1.35	11.5	10	11	2	18	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	4	38.4	.....	66	22	15	4	32	6.10	.....	3.95	7.5	6	18	8	5	sw.	H. Lathrop.
Montague	Siskiyou	2,450	22	30.0	− 6.1	53	24	9	5†	29	0.88	− 0.52	0.27	5.5	6	4	1	26	s.	G. H. Chambers.
Monterey	Monterey	15	45	46.4	− 3.8	66	21	26	3†	...	5.14	+ 2.32	1.28	0.0	9	11	11	9	se.	Southern Pacific Co.
Monterio	Kern	4,500	11	40.0	− 9.7	60	30†	24	19	26	2.10	− 0.52	1.00	0.0	4	21	2	8	nw.	John C. Knecht.
Monumental	Del Norte	.....	5	32.7	.....	48	29†	10	5	22	17.17	.....	2.00	64.0	22	7	1	23	.....	G. F. Morgan.
Mount Tamalpais	Marin	2,375	11	39.7	− 6.2	62	30	27	2	23	2.96	− 2.26	0.82	2.1	16	10	2	19	se.	U. S. Weather Bureau.
Napa City	Napa	20	33	42.7	− 2.7	61	28	23	4	28	3.64	− 1.49	0.90	0.0	10	8	10	13	s.	Thomas Hull.
Napa (S. H.)	...do...	60	32	43.8	− 1.6	58	28†	28	3	22	3.19	− 1.66	0.74	0.0	11	11	9	11	sw.	W. H. Martin.
Needles	San Bernardino	477	18	51.3	− 1.1	83	25	27	6†	43	0.88	+ 0.27	0.65	0.0	3	26	1	4	w.	Santa Fe Co.
Nellie	San Diego	5,350	1	36.6	.....	66	22	9	5	34	7.76	.....	4.05	16.5	7	17	0	14	ne.	C. J. Bailey.
Nevada City	Nevada	2,580	18	37.2	− 3.6	67	30	8	4†	39	6.70	− 4.08	1.79	37.0	16	10	3	18	s.	S. W. Marsh.
Newcastle	Placer	970	17	43.5	− 2.9	62	30†	24	5	26	4.62	− 1.22	1.31	3.0	11	8	9	14	nw.	George D. Kellog.
Newhall	Los Angeles	1,200	33	44.6	− 3.3	80	22	20	19	...	1.30	− 1.24	1.20	1.0	2	21	0	9	se.	Southern Pacific Co.
Newman	Stanislaus	91	21	46.2	− 1.8	63	30	28	5	29	1.99	− 0.01	1.22	0.0	8	12	0	19	s.	E. S. Wangenheim.
Nimshew	Butte	2,500	6	36.8	.....	61	30	12	5	31	10.30	.....	2.15	25.8	16	10	1	20	.....	Cal. Gas & Electric Co.
North Bloomfield	Nevada	3,200	13	.....	.....	.....	.....	.....	.....	.....	10.00	+ 1.42	4.70	33.0	6	.....	.....	.....	.....	W. G. Shand.
North Fork	Madera	3,000	6	37.4	.....	65	21	14	3†	32	6.68	.....	1.95	14.0	7	12	10	9	s.	G. H. Shinn.
Oakdale	Stanislaus	156	16	43.4	− 2.3	57	16†	26	3†	....	2.95	− 6.22	1.28	0.0	11	11	7	13	nw.	Southern Pacific Co.
Oakland	Alameda	36	34	45.5	− 2.1	56	22†	30	3	17	3.16	− 2.00	0.68	0.0	12	9	12	10	sw.	Chabot Observatory.
Oceanside	San Diego	.....	...	51.0	.....	72	22	34	5	24	1.62	.....	1.01	0.0	6	13	11	7	w.	H. D. Brodie.
Ojai Valley	Ventura	900	4	49.4	.....	84	22	24	5	44	2.13	.....	0.65	0.0	8	19	11	1	sw.	W. H. Duncan.
Orland	Glenn	254	28	41.3	− 6.3	62	30	26	3	24	2.47	− 0.80	0.43	0.0	12	8	9	14	n.	W. W. Patch.
Orleans	Humboldt	520	7	43.1	.....	63	30	21	5	31	7.06	.....	0.93	1.5	18	10	4	17	.....	Fred T. Hale.
Oroville (near)	Butte	250	26	43.1	− 5.0	50	30	25	3†	30	3.64	− 1.29	1.03	0.0	13	8	1	22	s.	E. D. Fairchild.
Palermo	...do...	213	19	42.5	− 3.0	63	30	23	3	28	4.10	− 1.06	1.00	0.0	9	8	15	8	s.	Miss Hettie Boalt.
Palm Springs	Riverside	584	21	49.8	− 5.5	80	29†	28	6	...	1.90	+ 1.16	1.00	0.0	2	18	9	4	w.	Southern Pacific Co.
Pasadena	Los Angeles	827	20	50.4	− 2.3	83	22	27	5	39	2.96	− 1.17	1.69	0.0	5	23	5	3	sw.	E. R. Sorver.
Paso Robles	San Luis Obispo	800	23	44.8	+ 0.2	72	31	21	5	40	3.81	+ 0.89	2.02	T.	6	6	4	21	nw.	Dr. F. W. Sawyer.
Peachland	Sonoma	190	14	42.5°	− 5.5	62	28	21	5	30	6.40	− 3.47	1.46	0.0	17	13	3	15	se.	E. H. Parnell.
Penstock Camp	Tuolumne	3,750	3	38.2	.....	60	20†	18	3†	26	5.69	.....	1.37	51.9	10	7	17	7	se.	Tuolumne W. P. Co.
Placerville	El Dorado	1,875	21	39.4	− 1.7	62	22	17	5	28	6.79	− 1.29	1.42	9.0	10	14	3	14	sw.	A. Baring-Gould.
Point Lobos	San Francisco	250	17	46.0	− 2.4	58	23	32	3	14	3.04	− 1.40	0.62	0.0	14	10	9	12	ne.	John Hyslop.
Point Reyes	Marin	490	18	46.6	− 2.8	65	23	35	2	15	2.66	− 3.09	0.58	0.0	19	8	10	13	nw.	U. S. Weather Bureau.
Portersville	Tulare	464	21	44.6	− 3.5	74	31	26	5	36	2.37	+ 0.93	1.09	T.	9	7	17	7	.....	Harry E. Cowie.
Quincy	Plumas	3,400	15	25.8	− 8.8	50	22	−10	4†	30	6.11	− 1.89	2.00	63.0	9	12	4	15	sw.	D. N. Rogers.
Red Bluff	Tehama	307	33	41.9	− 3.5	60	30	26	4	21	2.99	− 1.68	0.59	0.4	17	5	7	19	nw.	U. S. Weather Bureau.
Redding	Shasta	552	35	42.1	− 3.1	62	29	26	4	22	4.46	− 2.83	0.77	1.2	18	7	5	19	n.	L. F. Bassett.
Redlands	San Bernardino	1,352	17	48.8	− 2.0	82	22	25	6	40	1.99	− 0.60	1.47	0.0	4	15	8	8	w.	Paul W. Moore.
Reedley	Fresno	347	10	45.4	− 0.7	70	31	27	4†	34	1.13	− 0.11	1.02	T.	2	12	0	19	n.	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	4	49.8	.....	78	22	28	5	24	8.18	.....	4.80	6.5	6	15	6	10	se.	So. California Edison Co.
Riverside	Riverside	851	28	50.0	− 1.1	80	30	27	9	40	1.70	− 0.12	0.75	0.0	5	18	12	1	n.	C. W. Barton.
Rocklin	Placer	249	39	43.6	− 3.0	62	30	24	5	26	4.08	− 0.15	1.51	T.	9	15	4	12	ne.	Southern Pacific Co.
Rohnerville	Humboldt	75	7	44.4	.....	63	22	24	4	22	7.41	.....	1.00	0.0	13	4	8	19	se.	Dr. R. Callahan.
Sacramento (1)	Sacramento	71	33	43.2	− 2.4	59	30	28	5	20	1.48	− 2.34	1.04	0.0	12	8	9	14	se.	U. S. Weather Bureau.
Sacramento (2)	...do...	35	57	43.4	− 3.0	57	30	26	5	21	2.51	− 1.31	0.50	0.0	12	10	7	14	n.	S. H. Gerrish.
St. Helena	Napa	255	2	42.4	.....	62	27	22	3	29	7.03	.....	2.55	0.0	11	13	0	18	s.	B. F. Kettlewell.
Salinas	Monterey	40	36	47.4	− 0.8	68	30	27	5	29	3.69	+ 0.80	1.60	0.0	10	21	7	3	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	18	49.4	− 1.9	85	22	23	6	48	2.43	− 0.81	1.33	0.0	4	14	13	4	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	39	52.2	− 1.8	76	22	34	6	30	2.00	− 0.02	0.72	0.0	6	19	6	6	ne.	U. S. Weather Bureau.
San Francisco	San Francisco	207	39	46.4	− 3.1	59	23	36	3	16	3.34	− 1.51	0.83	0.0	13	7	8	16	nw.	Do.
San Jacinto	Riverside	1,550	17	50.7	+ 1.5	89	30	24	6†	55	2.99	+ 0.14	1.69	0.0	6	18	7	6	w.	E. T. Tanner.
San Jose	Santa Clara	95	35	44.8	− 3.5	60	23	26	3	27	2.31	− 0.43	0.50	0.0	12	7	9	15	se.	U. S. Weather Bureau.
San Leandro	Alameda	48	15	44.8	− 8.3	60	13†	27	3†	21	3.71	− 0.76	0.97	0.0	14	9	10	12	w.	E. B. Sanford.
San Luis Obispo	San Luis Obispo	201	15	49.1	− 1.9	76	22	29	6	31	3.48	− 1.16	0.94	0.0	9	10	4	17	n.	U. S. Weather Bureau.
San Mateo	San Mateo	22	36	48.0	+ 0.1	58	16†	30	5	....	4.57	+ 0.30	1.23	0.0	13	7	10	14	n.	Southern Pacific Co.
San Miguel	San Luis Obispo	616	23	46.1	− 0.5	65	21†	25	5	...	2.15	+ 0.29	0.91	0.0	6	6	15	10	.....	Do.
San Miguel Island	Santa Barbara	500	...	50.0	.....	70	22	37	5†	20	1.75	.....	0.35	0.0	7	17	7	7	sw.	Capt. W. G. Waters.
Sanger	Fresno	371	21	40.7	− 7.0	53	30	31	30	...	1.05	− 1.05	0.70	1.0	4	5	9	17	.....	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	26	50.4	− 2.8	78	22	31	5†	34	2.91	− 0.77	0.73	0.0	8	21	6	4	w.	George W. Russell.
Santa Clara	Santa Clara	90	21	45.6	− 2.0	61	12†	25	3	31	3.08	+ 0.29	0.55	0.0	14	10	4	17	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	37	46.2	− 4.9	70	30	27	5	36	5.15	+ 0.11	1.50	0.0	9	11	7	13	n.	W. R. Springer.
Santa Magarita	San Luis Obispo	996	21	49.2	+ 5.8	65	31	27	7	...	7.45	+ 2.31	3.50	0.0	8	21	0	10	nw.	Southern Pacific Co.
Santa Maria	Santa Barbara	220	22	48.9	− 2.7	76	30	30	5†	36	3.47	+ 0.99	1.10	0.0	8	.....	.....	.....	.....	L. E. Blochman.
Santa Monica	Los Angeles	110	25	49.4	− 4.8	78	22	32	4	36	1.70	− 1.15	1.00	0.0	4	18	7	6	w.	N. D. Ingham.
Santa Rosa	Sonoma	181	21	42.8	− 5.2	62	28	20	4	30	4.94	− 1.71	1.22	0.0	19	9	3	19	sw.	M. L. McDonald, jr.
Selma	Fresno	311	24	41.4	− 3.6	65	31	26	5	...	2.00	+ 0.43	1.11	0.0	5	5	21	5	se.	Southern Pacific Co.
Shasta	Shasta	1,049	14	38.8	− 7.9	70	1	17	3	46	6.99	− 4.00	0.91	1.4	20	4	4	23	s.	Dr. T. J. Edgecomb.
Sierra Madre	Los Angeles	1,400	13	50.6	− 2.4	76	22	31	4	28	3.73	− 0.48	2.28	0.0	5	15	7	9	s.	Miss A. E. Carter.
Sierraville	Sierra	5,000	...	21.1	.....	55	23	−17	5	46	5.27	.....	2.15	52.0	7	12	3	16	se.	C. D. Johnson.
Sisson	Siskiyou	3,555	21	28.2	− 5.8	48	20†	4	4	35	7.40	+ 1.05	1.40	64.0	14	7	3	21	s	Southern Pacific Co.
Soledad	Monterey	188	36	56.7	+ 9.6	77	18	40	10	...	1.15	− 0.75	0.35	0.0	7	9	5	17	s.	Do.
S. E. Farallon	San Francisco	30	7	48.2	.....	56	23	39	2	11	2.64	.....	0.89	0.0	15	6	13	12	w.	U. S. Weather Bureau.
Sonora	Tuolumne	1,825	22	41.8	.....	66	21	17	4	25	6.28	+ 0.49	1.48	16.0	9	15	7	9	nw.	Charles P. Jones.
Stirling City	Butte	3,525	6	31.8	.....	55	21	5	4	31	8.50	.....	3.00	49.0	9	6	10	15	se.	Butte County R. R. Co.
Stockton (S. H.)	San Joaquin	23	39	42.4	− 4.1	58	30	25	5	22	2.04	− 0.95	0.72	0.0	9	10	9	12	se.	State Hospital.
Storey	Madera	296	10	40.2	− 4.7	68	31	19	5†	32	0.67	− 1.04	0.55	1.0	3	18	0	13	n.	Santa Fe Co.
Suisun	Solano	20	30	43.8	− 3.4	62	30	29	3†	....	2.99	− 0.97	0.77	0.0	11	16	0	15	sw.	Southern Pacific Co.
Summerdale	Mariposa	5,270	14	35.9	− 1.2	64	28	8	4	34	10.62	+ 0.10	2.90	52.0	9	11	5	15	s.	J. H. Lowry.

TABLE 1.—*Climatological data for January, 1910. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Cont'd.																				
Summit	Placer	7,017	37	23.2	− 4.8	40	28	2	5	22	8.60	+ 0.38	2.10	86.0	8	10	0	21	sw.	Southern Pacific Co.
Susanville	Lassen	4,175	21	23.4	− 7.7	46	23†	− 9	5	25	3.66	− 0.55	0.90	46.0	9	7	10	14	sw.	James Branham.
Tamarack	Alpine	8,000	4	18.3	.....	49	22	−29	5	64	8.63	.....	2.08	97.0	14	12	6	13	sw.	William Bennett.
Tehachapi	Kern	3,964	33	37.1	− 1.1	64	23	22	17	....	T.	− 1.39	T.	0.0	0	15	6	10	.....	Southern Pacific Co.
Tehama	Tehama	220	39	42.5	− 4.5	54	20†	30	3†	....	2.00	− 1.58	.....	0.0	....	13	5	13	.....	Do.
Three Rivers	Tulare	870	....	44.3	.....	74	31	26	12	38	3.50	.....	1.31	T.	8	13	11	7	sw.	E. D. Barton.
Towle	Placer	3,704	24	37.2	− 3.4	74	30	10	5	46	7.46	− 2.27	2.00	61.0	9	12	0	19	.....	Southern Pacific Co.
Tracy	San Joaquin	64	30	42.8	− 4.1	55	23†	26	3†	....	1.90	+ 0.26	1.18	0.0	8	8	4	19	sw.	Do.
Ukiah	Mendocino	620	17	41.4	− 3.7	64	30	18	5	33	7.81	+ 0.29	1.50	0.0	18	16	0	15	nw.	Dr. George McGowen.
Upland	San Bernardino	1,750	13	46.8	− 3.5	79	22	26	5	37	2.83	− 1.21	2.09	0.0	5	19	4	8	w.	A. P. Harwood.
Upper Lake	Lake	1,350	25	39.0	− 5.8	63	29	18	5	30	5.61	− 0.25	1.18	1.0	14	11	2	18	su.	C. M. Hammond.
Vacaville	Solano	175	22	43.6	− 2.8	64	28	25	3	30	3.33	− 2.54	0.82	0.0	10	11	12	8	n.	G. O. Coburn.
Valley Springs	Calveras	673	21	45.2	− 1.0	61	30	28	4†	....	5.84	+ 2.06	1.95	0.0	13	7	10	14	s.	Southern Pacific Co.
Visalia	Tulare	334	22	42.9	− 1.7	60	28†	28	12	29	1.16	− 0.78	0.75	1.0	5	18	2	11	s.	Santa Fe Co.
Warner Springs	San Diego	3,165	2	46.4	.....	78	21	19	5	45	2.90	.....	1.12	6.5	7	.....	.....	.....	.....	Mrs. E. F. Sanford.
Wasco	Kern	336	10	37.2	− 7.7	61	13	20	7†	40	1.79	+ 0.91	1.50	0.0	2	17	1	13	.....	Santa Fe Co.
Watsonville	Santa Cruz	23	14	48.2	− 4.2	70	27	27	5	36	3.71	− 0.74	0.83	0.0	11	4	19	8	sw.	Spreckels Sugar Co.
Westley	Stanislaus	90	21	42.5	− 5.9	56	31	27	5†	....	1.57	− 0.41	1.10	0.0	5	10	2	19	.....	Southern Pacific Co.
Wheatland	Yuba	84	23	42.3	− 2.3	57	30	24	5	21	3.14	+ 0.86	0.69	0.0	12	12	8	11	n.	Wm. Lumbard.
Willows	Glenn	136	31	42.9	− 2.3	58	28†	25	4	22	3.10	− 0.19	0.71	0.0	11	9	5	17	n.	M. T. Harrington, jr.
Yosemite	Mariposa	3,945	6	29.0	.....	52	31	0	5	31	8.17	.....	2.39	43.0	11	13	9	9	n.	C. W. Tucker.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 11, California.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon.																																	
Klamath Agency	Klamath							.45							.40			.20								.35							1.40
Klamath Falls	...do							.21	.05	.04					.35			T.		.09		.65	.08	.09	.31		.22		.06			.10	1.66
Lakeview	Pitt				.20			.01	.03	.25	.25		.20			.02												.20	.10				1.26
Long Valley	...do																																
Merrill	Interior Drainage							.05		.03					.28									.02	.50								0.88
Yonna	...do	.05					.04	.12	.03	T.					.10	.01			.10			.05	.03	.10	.07	.06	.04	.03	.05			.09	0.97
California.																																	
Aguanga	Coast	3.02	1.25	.08													.14																4.49
Alameda	...do		.20					.20		.50		.10		.40	.40	.50	.10				.10		.10	1.00			.40					.10	4.10
Alturas	Sacramento	.34	.03							.02	.02				.09	.08				.01			.10	.04	.30	.04	.16					.04	1.27
Anderson	...do	.01	.17					.02		.21	.22	.04	.07	.33	.26	.38	.05	T.			.05		.36	.10	.56	.43	.06	.44	T.			.02	3.78
Angles Camp	San Joaquin	.80								.33				.54	.22	1.00	.18								1.13	.21							4.41
Angiola	...do														.33	.33																	0.66
Antioch	...do									.20				.42		.31						.12		.60	.05								1.70
Aptos	Coast	1.00	.14							.16	.18				1.18	.45	.74	.06			T.		.14		.71	.06	.24						5.06
Arrowhead Springs	...do	2.46	1.16									.43														.08							4.13
Auburn	Sacramento	1.80	.90								1.13				.70	1.12	.60	.32							1.60	.30	.20	T.					8.89
Avalon	Ocean	.31	.61	.01								.14				.03	T.								T.	.02							1.12
Azusa	Coast																																
Bagdad	Desert																																0.00
Bakersfield	San Joaquin	.73	.18														.14										.10						1.15
Barstow	Desert	.50	.22									.30																					1.02
Bear River	San Joaquin																																
Bear Valley (1)	Sacramento	.55						.15		.63				1.70	2.10	1.35	.85					.36	.34	2.05	.85	.78							11.71
Bear Valley (2)	San Joaquin	.58	.60	.30														.65							.39							.38	2.90
Bear Valley Dam	Coast	6.00	3.75									.52			.20																		10.47
Ben Lomond	...do	T.							.15					1.50	1.00		.62						1.05	1.40	.25	.90						T.	6.87
Berkeley	...do									.15				.64	.01	.60	.36	.01			.01	.04	.05	.02	.98	.28	.20					.03	3.38
Big Bar	Sacramento																																
Biggs	...do								.20						.95	.28	.43						.25		.25								2.36
Bishop	Owens																																
Bishop Creek	...do																																
Blocksburg	Coast	T.					.10	.54	.05	.23		.08	.10	.88	.67	.87	.30		T.	.23	1.00	.30	.16	.42	.68	.50						.22	9.55
Blue Canyon	Sacramento	2.20	.60							.30	.40			1.40	1.20	1.20	1.00						.50	1.00	.85	1.80	.30						12.75
Blythe	Desert																																
Boulder Creek	Coast	1.40		.05						.32	.05			1.42	1.12	.52								.35	2.52		.63	.02					8.40
Bowmans Dam	Sacramento	1.84	.25				T.	.08	T.	T.	.63	T.	.03	T.	1.18	1.22	1.16	.54						.45	.38	2.68	.47	.55	T.				11.46
Branscomb	Coast	.20	.38				.18	.37		.42	.14	.64		1.48	.70	1.70	.45					.35	T.	.58	.45	1.65	2.03	.70	.09				.25	12.74
Brawley	Desert	.09	.06													T.	T.																0.15
Brush Creek	Sacramento	.05						.13	T.	.70	.03	T.		.05	.43	1.18	.40					.05	.20	.35	2.37	.08	1.37					.09	8.48
Burney	...do	.50	.40						T.	.30		T.		.10	.60	.50	.40					T.	.25	.15	.30		.10					.20	3.80
Butte Creek House	...do																																
Butte Valley	...do	.44	.21					.04		.12				1.50	1.30	.31				.03			.14	.12	2.10	.41	.35					.09	7.16
Calexico	Desert	T.																															T.
Caliente	San Joaquin				.20											1.00										.20							1.40
Calistoga	Coast												.48		1.32		.80	.72				.70	.50		2.04	.40							7.16
Campbell	...do	.08								.10				.25	.80	.20	.20				.03	.07	.05	.52									2.30
Campo	...do	1.26	2.07	.88												.15	.57																4.93
Camptonville (near)	Sacramento	1.10						.21		1.52	.35			2.43	2.00	1.29						.98	.23	.04	3.03	.65	1.64						15.47
Cedarville	Mountain Lakes	.21						.03		.16					.05							T.			.31	.12	.10					.25	1.23
Chester	Sacramento																																
Chico	...do	.30						.03		.53				.13	.24	.32	.45					.15	.04	.25	.76	.04	.53						3.77
Chico (near)	...do							T.		.62				.41	.33	T.	.33		T.			.20		1.11		.72	T.					.19	3.91
China Flat	Coast						.13	.26		.20		T.		1.10	.68	.90			.26	.29	T.	.65	.36	.85	.43	.65		.24				.11	7.11
Chino	...do	2.00	2.36									.48													.08								4.92
Cisco	Sacramento	3.00	.40							.20	.20			1.40	2.50	2.00	1.80						2.60	.50	1.50	.80	.30						15.60
Claremont	Coast	1.23	1.08	.15							.01	.27			.02	.03	.12								.02								2.93
Clear Lake	Klamath																																
Cloverdale	Coast																																
Colfax	Sacramento	2.00	.50				.04	.11		.39	T.	.05	.16	.90	.44	1.16	.58			.03		.10	.18	1.06	1.42	.16	.65					.15	7.48
Colgate	...do	2.06	.04							.25	.05				1.00	2.50	.06	.50	.05			T.		.15	1.80	.80	.30						9.96
Colusa	...do									.25	.02	.02		1.36	1.10	.34	.47					.02	.04	.12	1.08	.47	.60	.08					8.67
Corning	...do									.41					.26	.29	.70					.18	.07	.69									2.60
Corona	Coast	2.05	.71							.45				.48							.20	.07		.70		.36							2.26
Crockers	San Joaquin										.32																						3.08
Cuyamaca	Coast	2.65	1.17	.36								.14				1.02	1.05																13.36
Daunt	San Joaquin	1.07	1.80	.40								T.			T.	.30	.50								.50	.53							6.33
Davisville	Sacramento	.50								.02	.01			.02	.36	.30	.03					.01	.01	.16	.33								5.10
Deer Creek	...do	.90	.13					.07		.53		T.		T.	1.70	1.85	.75	.06				T.	.13	.21	3.00	.20	.57						1.75
Delta	...do	.54						.15		.17	.25	.22	1.05	1.50	.50	1.27	.05					.75	.38	1.78	1.95	.85						.65	10.13
Denair	San Joaquin	.23	.95							.25						.01	.04	.01	.02			.01	.02	.01	.01								12.06
Descanso	Coast	1.39	2.14	1.15	.35												.66	.37															1.56
Dinuba	San Joaquin	.33													.18	.26	.32	.25								.15						.13	6.06
Dobbins	Sacramento	.91							.03	.83	.01	.01	.01	.01	1.44	.80	.56	.02				.01	.09	.27	1.11	.20	.84	.01					1.62
Dorris	Klamath																																7.16
Downieville	Sacramento	1.14	.32						.07	1.23					1.94	2.20	.63	.23					.26	.30	2.55	.11	.54						
Dudleys	San Joaquin	1.00	.26							.41				T.	.92	1.05	.85	.18				T.	.04	.07	.98	.28	.01						11.52
Dunnigan	Sacramento	.60								.32					.50	.35	.56					.10	.02		1.13								6.05
Dunsmuir	...do		.15				T.		.08	.15	.18	.10	.15		1.50	.60	.20			.03		.35	.66	.67	2.56	.10	1.50						3.58
Durham	...do									.56			T.	.17	.85		1.07					.16			.12	.90						.44	9.00
Dyerville	Coast							.24				.51		1.94	1.00	1.70	.02					1.10		1.90	1.60	1.55						.55	3.97
Edgewood	Klamath	.15	.08											.80	.70		.30				.18		.32	1.02		.60						.54	12.11
Edison	San Joaquin	.67	.31	.01	.02												.18								.04								4.69
El Cajon	Coast	1.05	.63	.33							.03					.34	.30									.04							1.23
Electra	San Joaquin	.96	.38							.36	T.				.68	1.32	.94					T.	.11	.13	.79	T.							2.72
Elsinore	Coast	1.89	1.49	.11							.16		.03		T.	.03	.03																5.67
Emigrant Gap	Sacramento	3.00								.60				.70	2.60	1.80	1.70							1.00	1.70	1.20	.50						3.74
Escondido	Coast	1.64	1.18	.21								.30				.20	.50																14.80
Eureka	...do	.05	T.				.07	.25	.07	.10	.17	.02		1.17	.99	.24			.28	.07	.07	.11	.32	1.60	.49	.49	T.	.01	.06	.03		.60	4.03
Fairmont	...do	3.30	.85								T.				T.									T.	.32							7.26
Farmington	San Joaquin	1.43	.41								26				.24	.22	.45	.07					.09		.07								4.47
Felton	Coast	1.31	.35					.12		.17					1.14	.98	.42	.08					.21	.08	1.25	.23	1.08	.05					3.24
Firebaugh	San Joaquin	1.95	.11							.03	.04				.02		.27	.05								.14							7.47
Folsom	Sacramento	1.64								.34	.25					.36	.18	.04					.36		.70	.20	.04						.61
Fordyce Dam	...do	1.72	.45					.08	T.	.42	.11	.11		.10	1.50	1.44	1.28					.15	.35	.28	1.85	.35	.16						4.11
Fort Bragg	Coast						.70	.10	.24	.19	.05	.16	.36	1.60	.72	.35	.10						.45	1.84	.15	1.20						.32	10.35
Fort Ross	...do		.10	.08			.06			.48	.15	.32		.47	.28	.82	.40	T.			T.	.03	.09	1.09	1.22	.42	.30					.21	8.43
Fouts Springs	Sacramento									.02	.36		.10	.88	.33	1.10	.32					.24	.09	1.00	1.54	.08	.43					.08	6.52
Fredalba	Coast	5.00	1.40									.02			.24	.19	.27						.22										6.57
Fresno	San Joaquin	.66	.26							T.		.01			.07	.18	.01					T.		T.	.03								7.34
Fruto	Sacramento	T.							37		.07				.43			.85				.30	.10		.80		T.						1.22
Galt	San Joaquin	1.70	.15							.20					.30	.35							.25		.55	.11							2.92
Georgetown	...do	2.29	.32					.01	.36	.38	.03			1.11	1.62	.95	.25						.25		2.18	.40	.50	.05					3.61
Gilroy	Coast	1.25	.40							.10	.12				.62	.90	.58	.18			.07	.10	.04	1.10		.33							10.70

TABLE 2.—*Daily precipitation for January, 1910. District No. 11*—Continued.

Stations	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Gilta	Coast																																
Glendora	...do																																
Glen Ranch	...do	a	1.20	.10								.30				.02																	14.10
Glennville	San Joaquin																																
Glenwood	Coast	.31	.10				T.		.28	T.			T.	1.60	1.22	.58	.09				T.	.23	T.	2.22		.32							6.95
Gold Run	Sacramento	1.00	.30							.10	.20				.50	1.85	.80	.50					T.		1.70	.60	T.						7.55
Gonzales	Coast	1.38	.21							.02					.33	.05	.27	.10							.38	.13							2.87
Grass Valley	Sacramento	.89	.11					.06		.63	.03	T.			1.31	1.15	.55						.01		2.24	.02	.64						7.64
Greenville	...do	.74	.20							.22	.20	T.			2.48	1.64	.34							.31	2.02	.35	T.						8.50
Gridley	...do	.54								.54					.43	.25	.57					.22	.05	.05	.92		.24						3.81
Groveland	San Joaquin	1.21	.18							.36		T.			1.10	1.55	1.04	.16			T.	T.		.21	1.74	.39							7.94
Guinda	Sacramento	T.	T.							.63					.85	.55	.29					.33			1.70		.11						4.46
Hanford	San Joaquin																																2.40
Head Dam	Sacramento	2.00								.91	.06			1.50	1.00	.75	.93	.02					.25	.20	.70	.03	1.05						9.40
Healdsburg	Coast	.01						.01		.30		.04	.15	1.00	.35	.70	.38					.08	.24	1.04	1.21	.16	.61					.13	6.51
Hearst	...do																																
Heber	Desert	.27	T.																														0.27
Helen Mine	Coast										.55	.25			2.00	1.70		.80				.90		2.05	2.82	.25							11.33
Hesperia	Desert	3.03	.60					.20	.10			.10																					4.03
Holcomb	Coast	3.58	.92	.01								.15																					4.66
Hollister	...do	1.58	.41							.07					.37	.12	.44					.25	.08		.41	.21							3.94
Hornbrook	...do								.30	.05										T.	.50											T.	0.85
Hot Springs	San Joaquin	1.00				.93											.53	.22								.34	.13						3.15
Hullville	Coast						.04	.15		.32	.04	.14	.08	.85	.68	1.17	.25			.12		.53	.61	.94	1.67	.28	.55					.16	8.58
Idyllwild	...do	2.10	1.15									.05					1.90																5.20
Independence	Owens	.02	.23																						T.								0.25
Indio	Desert	.27	.26																														0.47
Inskip	Sacramento	1.82	.21				T.	T.		.78		T.		.48	2.22	1.61	.46		T.			.25	.37	.23	3.97	.68	1.25					T.	14.33
Ione	San Joaquin	2.00									.48				.52	.15		.56							.45	.27							4.43
Iowa Hill	Sacramento	1.50	.40							.17	.37				1.10	1.57	.62	.15				.05	.09		2.31	.05	.39						8.77
Isabella	San Joaquin		.85														.03							T.	.20								1.08
Jacksonville	...do	1.56	.66							.32	.14				.36	.02	1.28	.40					.10		.60	.56	.04						6.04
Jamestown	...do	1.10	.50							.25					.60	1.25	.75						.10	.20	1.50	.10	.05						6.40
Jenny Lind	...do	1.70	.42								.14				.35		.90						.14			.10	.05						3.80
Johnsville	Mountain Lakes																																
Jolon	Coast	1.28	.08	.07											.44	.18	.20								.65								2.90
Julian	...do	2.30	1.10	1.65	.80								.05				1.20																7.10
Kennedy Mine	San Joaquin																																5.33
Kennett	Sacramento		.20						.20		.60	.82	.80	.76	1.62	.80	.20			.50		.52	.34	.20	1.62	.22	1.20						10.60
Kentfield	Coast		.06					.18		.12				.81	.44	.71	.61					.07	.09	.79	.47	.27	1.29						6.91
Kernville	San Joaquin																																
King City	Coast	1.83	.06												.16	.05	.18								.23	.11	.05						2.67
Knights Landing	Sacramento	.92								.16	.12				.56	.50	.18	.14				.10	.02	.08	.64	.04	.02						3.48
Knob	...do																																
La Grange	San Joaquin	.73	.55							.12					.13	.52	.13						.04	.08	.39								2.69
Lake Eleanor	...do	2.40	.30							.21		.04			.90	1.12	1.36						.08	.03	1.25	.48	.04						8.21
Lakeside	Coast	.50	1.18													.37																	2.05
La Porte	Sacramento	1.05	.28				T.	.26	3.00	.78	.02	.15			2.27	1.68	.58	.01		.03		.02	.51	.17	3.42	.64	.80						15.67
Lathrop	San Joaquin	1.34								.14					.08	.23	.16	.04				.04	.10		.08	.06							2.27
Laurel	Coast	1.70								.15	.45				2.10	1.80	.60	.05					.20		2.55	.15							9.75
Laytonville	...do						.42	.08	.44			.63		1.94	1.63	.28	.32		.26		.25	.77	.46	2.12	.58	1.24						1.27	11.69
Le Grand	San Joaquin	.70								.50						.50	.15							.25									2.10
Lemon Cove	...do	.91	.15												T.	.43	.93								.36								2.78
Letter Box	Sacramento																																
Lick Observatory	Coast		.41					.21		.23	T.				.55		2.84					.04	.25		.50	2.00	.12					.14	7.29
Livermore	...do	.14						.03		.08				.10	.50	.26	.26					.06	.02	.17	.79	.02	.07						2.50
Lodi	San Joaquin	.76								.20					.27	.26	.21					.04	.07	.12	.42								2.35
Lone Pine	Owens	T.																															T.
Long Camp	San Joaquin									.39					1.27	1.82	.02						.27	1.00	1.24		.20						7.11
Long Valley	Mountain Lakes	.40								.07					.55	.17	.55						T.	T.	.28	.18							2.20
Lordsburg	Coast	3.00	.72									.25																					3.97
Los Alamos	...do	1.47	.33									T.	.06			.19	1.05							.18	.30								3.58
Los Angeles	...do	.72	.61						T.	.05					T.	.08	.06								.01								1.53
Los Banos	San Joaquin	2.35							.44							.33									.10								3.22
Los Burros Mine	Coast	.30								.55	.15				1.75	.70	1.07					.04		1.73	.19	.05							6.53
Los Gatos	...do	.02	T.					.03		.20				.54	1.15	1.37	.67					.02	.18	1.05	1.60	.04	.07						6.94
Los Vaqueros	...do	.75	.10													.76	.20	.30						.50	.47								3.08
Lowe Observatory	...do	.70															.70																1.40
Lytle Creek	...do	5.50	1.00									1.39				.30																	8.19
McCloud	Sacramento																																
Macdoel	Klamath						T.																										T.
Madeline	Mountain Lakes	.50	T.				T.	.05					.12	.10	.30	.05	T.	.02	T.		T.	T.	.14	.60		.05		T.	T.			.12	2.05
Magalia	Sacramento	.20						.12	.31	.54				2.48	1.86	.44	.40				.16	.18	.24	3.98	.68	.76	T.					.96	13.31
Mammoth Tank	Desert	.50	.02																														0.52
Mariposa	San Joaquin	2.10	.80								.13			.79	.33	1.32	.10								.17	.60							6.40
Marysville	Sacramento	.64									.47				.12	1.13		.50							1.27		.07						4.20
Mecca	Desert	.10	.15																														0.25
Melones	San Joaquin	1.68	.88							.20	.14	.06			.52	.08	.92	.46				.04	.06	T.	.42	.64	.08						6.18
Menlo Park	Coast	.14						.03							.53	.34	.82						.10		.90		.51						3.37
Merced	San Joaquin	.98	1.00							.10					.10		.38	.15						.06									2.77
Merced Falls	...do	.24	.01						.08	.11			.18			.64	.13					T.	.01	.05	.23							.09	1.77
Mesa Grande	Coast	1.66	1.61	1.45								.20				.15	1.18								.05								6.30
Mill Creek (1)	San Joaquin	1.22	.65							.44	.10				1.24	2.33	.84					T.		.06	1.72	.33	.17						9.10
Mill Creek (2)	Coast	1.95										.25			.05	.04																	2.29
Mills College	...do	.09								.18				.48	.26	.55	.20					.02		.37	.76	.04	.36						3.31
Milo	San Joaquin	1.76	.52													.42	.72						.90										4.32
Milton (near)	...do	.10								.26					.27	.56	.33					T.	.08		.25								1.90
Modesto	...do			.90							.20					.30		.50					.20				.15						2.25
Mojave	Desert																																0.00
Mokelumne Hill	San Joaquin	.52	.42							.36				.55		1.35	.57					T.	.24	.30	.41	.06						.28	4.96
Mono Ranch	Coast	3.95	.85									T.			.09	.60	.45								.16								6.10
Montague	Klamath							.10						.19	.27							.10				.09						.13	0.88
Monterey	Coast	1.00	.70												1.26	.36	.68	.03					.16		.81	.14							5.14
Monterio	San Joaquin	1.00		.75													.25							.10									2.10
Montgomery Creek	Sacramento	.49								.63	.52	.41	.33		.44	1.21	.73					.54	.06	.46	1.03	.23	.80					.71	9.19
Monumental	Coast							1.80	.12	.14	.44			1.54	.65	.12	.06	.08	2.00		1.73	1.33	.64	2.00	1.10	1.47	.10	.83	.10	.06	.46	.40	17.17
Morena Dam	...do																																
Mount Tamalpais	...do	T.	.11				.02	.02		.16		.02		.52	.02	.30	.35				T.	.02	.08	.24	.82	.15	.08					.05	2.96
Mount St. Helena	...do									.30			.01		1.33			.40							2.88							.75	5.67
Napa City	...do							.06		.12		T.	.90	.40	.40				T.	.08	T.	.42	.74	.13	.30								3.64
Napa (S. H.)	...do	.22									.08				.71	.31	.41	.09				.07	.09		.74	.33	.14						3.19
Needles	Desert	.65	.17	.06																													.88
Nellie	Coast	4.05	1.71	.68								.70	.20		.07	.35																	7.76
Nevada City	Sacramento	.89	.19					.02		.30	.11	.01			1.18	1.21	.40	.01				T.	.03	.16	1.79	.02	.37	.01						6.70

a Signifies 12.39 inches.

TABLE 2.—*Daily precipitation for January, 1910. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Newcastle	do	.94	.05							.52	.02				.51	.60	.27						.15	.03	1.31		.22						4.62
Newhall	Coast	.10	1.20																														1.30
Newman	San Joaquin	1.22	.28							.07	.02				T.	.10	.20					T.	.04		.06								1.99
Nimshew	Sacramento	.98	.35				T.	.07		.68		.09		.15	1.40	1.04	.54					.14	.27	.70	2.15	.07	1.50					.17	10.30
North Bloomfield	do										1.00				.30	4.70	1.00						2.50	.50									10.00
North Fork	San Joaquin	1.95	.12	T.		T.				T.					.75	1.05	1.62	.02					1.17										6.68
North Lakeport	Coast						.10			.40		.08	.04	.65	.75	.57	.10				.04	.40	.17	1.68	.24	.40						.07	5.69
Oakdale	San Joaquin	1.28	.41						.27	.10					.17		.29	.04					.05		.07	.25	.02						2.95
Oak Grove	Coast																																
Oakland	do									.14		T.	.01	.48	.24	.62	.34				T.	.65	.03	.25	.68	.05	.27					T.	3.16
Oakville	do						.26								1.30	1.00	.61					.09	.11		2.62	.38	.22	.08					6.68
Oceanside	do	1.01	.11	T.							.12	.01		T.		.35	.02								T.								1.62
Ojai Valley	do	.65	.55								.08	T.			.27	.11	.37							.03	.07								2.13
Orland	Sacramento	.04							.22	T.		.01		.37	.25	.24	.35				.26	.04	.25	.43	T.	.03							2.47
Orleans	Klamath						.43	.05	.10		.06			.80	.70	.03			.73		.66	.93	.21	.80	.65	.57	.02	.10			.07	.15	7.06
Oroville	Sacramento								.20	.33				.50	.35	.20	.25				.06	.05	.07	1.03	.03	.38						.19	3.64
Osena	Coast	1.00	1.27								.13					.10																	2.52
Palermo	Sacramento	1.00									.60				.40	.30	.50				.10		.10		.90	.20					T.	4.10
Palm Springs	Desert	1.00	.90																														1.90
Parkfield	Coast	.21		.44											.39	.40	.49								.47								2.40
Pasadena	do	1.69	1.08										.10				.04									.05							2.96
Paso Robles	do	2.02	.40												.25	.40	.40									.60							3.81
Peachland	do						.03	.14		.37	.05	.04		1.03	.39	.55	.42				.02	.02	.13	.78	1.46	.27	.62					.08	6.40
Penstock Camp	San Joaquin	.50	.55						.15						.65	1.37	.84					.20	.10	.80		.80							5.69
Peyton	Sacramento								.16					.82	.59	.19	.09				.16	.04		1.18	.06	.08							3.37
Phoenix Dam	San Joaquin	.95	.30							.24					.75	1.31	.70	.03							1.40	.01							5.69
Pilot Creek	Sacramento	1.78	.46							.50		T.			1.56	2.10	1.11						.10	T.	2.00	T.	.08						9.75
Pine Crest	Coast																																
Pittville	Sacramento	.30						T.	T.						.20			1.30											1.50				3.30
Placerville	do	1.42								.52					1.12	1.02	.76	.35					.10		1.05	.34	.11						6.79
Point Lobos	Coast		T.	.02	T.			T.	.01		.18	.03	T.		.26	.35	.62	.26				T.	.04	.06	.23	.62	.06	.28				T.	3.04
Point Loma	do	.99	.94	.38	.08							.04	.05				.13	.30	.10														2.92
Point Reyes	do	.01	.03				.10	.12	.01	.10	.02	.10	.01	.26	.08	.11	.49				T.	.01	.08	.37	.58	.15						.03	2.66
Pollasky	San Joaquin	2.18	.36											.10	.12		.33	.24							.30								3.63
Porterville	do	1.09	.13									.20			.07	.12	.46							.01	.10							.19	2.37
Priest Valley	Coast																																
Quincy	Sacramento	1.00	.50							.20		T.			2.00	1.25	.20								.72	.15	.09						6.11
Red Bluff	do	.30	.02					.01		.29	.03	T.	.03	.44	.02	.40	.17				.15	.18	.06	.48	.23	.16	.02						2.99
Redding	do	.03	.17					T		.25	.13	.06	.12	.46	.49	.33	.10		T.	.04	T.	.35	.05	.72	.21	.16	.77	T.				.02	4.46
Redlands	Coast	1.47	.50	.01												T.	T.									.01							1.99
Reedley	San Joaquin	T.															1.02								.11								1.13
Represa	Sacramento	1.76								.38	.23				.47	.27						.18	.21		1.06							.32	4.88
Rialto (near)	Coast	2.00	1.25								T.	4.80			T.	.05	.04								.04								8.18
Rio Vista	Sacramento	1.38	.01							.16	.02				.54	.48	.22					.04	.06	.01	.36	.14	.10						3.52
Riverside	Coast	.75	.65									.21				.02										.07							1.70
Rocklin	Sacramento	1.51								.45				.43		.31	.15						.17		.76	.23	.07						4.08
Rohnerville	Coast							.36		.10		.21		1.00	1.00	.77			T.	.30		.12	T.	1.00	.70	.66	.20	T.				.49	7.41
Round Valley	Owens																																
Sacramento (1)	Sacramento	.14					T.			.29		T.		.17	.09	.17	.05				T.	.02	.03	.17	.29	T.	.03					.03	1.48
Sacramento (2)	do	.45					T.			.23				.34	.17	.34	.07					.01	.03	.21	.50		.02					.04	2.51
Saint Helena	Coast							.20		.28	.03				1.27	.87	.61					.63	.10		2.55	.10	.39						7.03
Salinas	do	1.00	.23									.10			.50	.19	.41	.04					.09		.29	.24							3.09
San Bernardino	do	1.33	.86									.19						T.								.05							2.43
San Diego	do	.70	.49	.41								.05				21	.14																2.00
San Francisco	do	.02	T.				T.	T.		.14	.02	T.		.74	.12	.62	.18				T.	.05	.04	.37	.61	.04	.26					.03	3.24
San Jacinto	do	1.60	.69									.10	.30				.25									.05							2.99
San Jose	do	.02						T.		.10		T.		.34	.36	.30	.40				.04	.02	.11	.19	.42		.01						2.31
San Leandro	do	.25	.01				T.	T.		.12		T.		.35	.12	.46	.21					.12	.18	.35	.97	.65	.38		T.				3.71
San Luis Obispo	do	.64	.02	T.							T.	.02		.05	.62	.94	.14				T.		T.	.31	.74								3.48
San Mateo	do	.52	.11					.05		.15					.70	.55	.21	.21					.09	.01	1.23	.25	.40						4.57
San Miguel	do	.91	.30												.20		.25								.25	.24							2.15
San Miguel Island	Ocean																																
Sanger	San Joaquin	.70													.06	.19									.10								1.05
Santa Ana River	Coast																																
Santa Barbara	do	.73	.61								.05				.02	.54	.42								.15	.39							2.91
Santa Clara	do	.32	.04					.02		.15				.04	.50	.55	.44					.07	.08	.26	.54	.05	.02						3.08
Santa Cruz	do	.15						.05		.40				.70	.95	.50								.85		1.50	.05						5.15
Santa Margarita	do	3.50	.30												.45	.58	1.25	.05							.58	.74							7.45
Santa Maria	do	.50	.43									.12			.30	.60	1.10						.16	.26									3.47
Santa Monica	do		1.00	.53							.09						.08								T.								1.70
Santa Rosa	do						.03	.16	.01	.34	.09	.02	.06	.46	.30	.60	.49	.01				.07	.05	.53	1.22	.14	.33					.03	4.94
Sausalito	do	.15												.57			1.04								1.03		.32						3.11
Selma	San Joaquin	1.11	.34												.05	.37										.13							2.00
Seven Oaks	Coast	5.40	1.50									38																					7.28
Shasta	Sacramento	.22	.08	T.		.19	.04	T.	.12	.26			.38	.10	.69	.17			.54	.26	.12	.38	.74	.91	.16	.11	.83	.04					6.99
Shingle Springs	San Joaquin	.90	1.11								.60				.75	.60	.60								2.75	.40							6.60
Sierra Madre	Coast	2.28										.16				T.	.10								.08								3.73
Sierraville	Mountain Lakes	.20												1.05	1.40	.85							.02		1.75								5.27
Sisquoc Ranch	Coast										.20	.13				1.05		.77															2.15
Sisson	Sacramento	.40							.20	.05	.05	.30	.20	1.30	2.10						.55	.10	.30	.35	1.40	.10							7.40
Soledad	Coast			.10										.35	.10			.05	.08						.12	.35							1.15
Sonora	San Joaquin	.95	.06								.69				.70	1.30	.78					T.	.11	.21	1.48								6.28
S. E. Farallon	Ocean		T.				.03	.05		.22		.35		.40	.03	.19	.16				T.	.02	.06	.61	.30	.16	.03		T.			.03	2.64
Spreckels	Coast	1.75	.52	.10				.03				.05			.50	.17	.49	.13					.11	.38	.38	.55							6.16
Squirrel Inn	do	5.08	1.90									.76				T.	.38									.33							8.45
Stirling City	Sacramento	1.50										.50			.90	.40	.60					.45			3.00	.25	.90						8.50
Stockton (S. H.)	San Joaquin	.72								.14					.17	.30	.26					.04	.09		.27		.05						2.04
Story	do	.10														.55									.02								0.67
Suisun	Sacramento	.05		.44						.03				.01	.75	.46	.02					.28			.77	.13	.05						2.99
Summerdale	San Joaquin	2.90	.28							.09					1.20	1.71	2.24								.10	1.90	.20						10.62
Summit (1)	Sacramento	.90	.80							.30					1.00	1.50	2.10								1.70	.30							8.60
Summit (2)	Coast	6.72	.76																														7.48
Surrey	do	1.35	1.10								.01	.11	.09	.24											.16								3.06
Susanville	Mountain Lakes	.55	.06							.20					.65	.85	.20							.10	.90	.15							3.66
Tamarack	Sacramento	1.08	.35					.38	.25	.17		.16			.80	1.40	.87					.10	.25	.24	2.08	.50							8.63
Tehachapi	San Joaquin																																‡T.
Tehama	Sacramento																																‡2.00
Three Rivers	San Joaquin	1.31	.21	T.											.04	.28	1.03	.05							.33	.25							3.50
Towle	Sacramento	.80	.40							.40						.80	.60	2.00						.40	1.96		.10						7.46
Tracy	San Joaquin	1.18	.04								.08				.05	.12	.16						.18	.09									1.90
Tulare	do	.17	.09												.04	.20	.40								.02								0.92
Tustin (near)	Coast	1.69	.85	.02								.12						.09															2.77
Ukiah	do						.10	.12		.32	.10	.22	.05	1.00	.70	1.13	.33				.05	.20	.30	.92	1.50	.20	.45					.12	7.81
Upland	do	2.09	.22									.40					.07								.05								2.83

TABLE 2—*Daily precipitation for January, 1910. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Upper Lake	do	T.						.12	T.	.30	.05	.04	T.	.07	.23	.79	.32					.15	.22	1.03	1.18	.16	.35					T.	5.61
Upper Matole	do	.05	.20				.01	.24	.03	.04	.14	.72	.02	.02	2.80	2.00	.27	.04		.35	.07	.67	1.67	.75	3.30	.35	1.75					.36	15.75
Vacaville	Sacramento						T.		.20					.82	.52	.24	.02				.16		.09	.75	.10	.43					T.	3.33
Valley Springs	San Joaquin	1.95	.40							.27	.05				.57	.65	.93	.19					.12	.01	.49	.18	.03					5.84
Ventura	Coast																															
Visalia	San Joaquin																															
Warner Springs	Coast	.48	1.12	.10								.06			.06	.42	.66															2.90
Wasco	San Joaquin	1.50															.29															1.79
Watsonville	Coast	.56								.09				.83	.67	.48	.10					.15	.02	.61	.16	.04						3.71
Weaverville	Sacramento																															
Weitchpec	Klamath		.02				.35	.74		.21	.05			.76	.16	.91		.03	.38	.51		1.05	.90	.61	1.36	.99	.26	.06	.22			.26	9.83
West Branch	Sacramento	1.37	.25				.02	.09	T.	.39	.02			.02	1.62	1.44	.44	.02				.16	.22	.20	3.04	.24	1.14	.22					10.91
Westley	San Joaquin	1.10	.10								.15				.12								.10									1.57
West Point	do	.95	.46								.31				.82	.72	1.58	.42					T.		.62	.75	T.					6.63
West Saticoy	Coast	.51													T.	.25	T.															0.76
Wheatland	Sacramento	.69								.58	.03			.17	.30	.32	.17					.04	.07	.23	.43	T.	.11					3.14
Willows	do		T.							.31	.01		.01	.41		.40	.71					.36	.16	.44	.27	T.	.02				T.	3.10
Woodleaf	do																															
Yosemite	San Joaquin	2.39	.10							.11				.88	1.31	1.71						.06	.07	.10	.94	.50						8.17
Yuciapi	Coast																															

TABLE 3.—*Maximum and minimum temperatures at selected stations for January, 1910. District No. 11, California.*

Date.	Lakeview, Oreg.		California.																									
			Alturas.		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	44	7	28	18	60	36	38	24	73	47	46	36	44	33	45	33	48	32	57	44	38	30	36	28	46	38	43	33
2	42	8	22	−20	50	33	41	20	55	37	44	37	44	30	44	34	32	25	51	39	33	27	41	25	45	33	40	33
3	40	6	11	−30	43	25	42	18	55	34	43	28	44	29	44	30	34	18	52	38	39	28	42	11	41	32	44	28
4	40	6	25	−17	48	25	46	19	55	34	39	29	44	28	41	31	34	22	54	35	35	28	36	8	45	28	43	26
5	36	9	16	−28	40	19	47	19	47	29	43	27	47	29	46	25	39	10	53	33	37	29	45	8	47	26	44	27
6	25	2	34	−11	42	21	39	31	52	24	43	30	52	38	49	32	37	11	58	37	41	33	45	22	52	28	42	32
7	34	10	31	16	46	23	45	36	54	25	40	36	49	41	53	33	40	18	60	41	43	35	40	32	55	28	40	35
8	32	16	31	8	51	26	39	29	58	25	45	32	46	38	53	34	41	20	64	45	38	33	43	27	54	31	44	34
9	30	18	34	19	50	25	43	31	56	26	44	38	46	40	50	37	40	22	57	41	44	35	36	31	55	34	39	37
10	28	14	35	12	57	24	46	30	62	29	46	38	49	41	48	30	40	21	57	46	43	34	46	23	54	31	45	36
11	40	− 4	33	−10	53	32	40	31	61	36	48	34	50	40	46	33	42	25	60	45	37	34	46	29	45	34	45	35
12	42	9	35	18	51	27	43	33	64	33	47	38	54	46	54	29	43	20	64	43	40	36	50	23	55	29	44	37
13	40	10	39	7	48	28	42	32	61	36	50	42	53	34	58	35	47	20	62	46	42	36	51	28	61	35	46	36
14	37	12	35	13	59	30	37	30	61	40	52	39	46	37	57	46	52	32	60	44	41	36	37	31	59	44	50	39
15	46	25	39	22	58	32	38	32	62	47	52	41	47	40	60	47	57	38	56	51	42	35	37	31	64	45	49	38
16	32	10	30	−11	56	31	42	30	67	48	47	32	48	38	57	40	46	35	55	46	38	32	35	31	54	46	47	36
17	29	3	26	−18	57	39	48	24	67	45	48	29	50	33	51	30	44	21	63	41	38	32	48	20	50	31	50	37
18	27	9	37	3	52	22	45	25	64	33	48	29	48	41	48	29	42	16	67	40	45	34	52	19	45	30	44	33
19	45	4	46	22	52	21	51	33	62	26	50	31	48	39	44	35	50	19	62	39	45	36	56	24	47	34	51	35
20	50	27	40	− 2	52	23	51	30	70	31	50	31	62	36	50	32	45	25	72	48	48	35	58	22	49	29	45	34
21	48	22	45	31	60	32	51	40	76	38	48	41	62	54	57	40	56	27	78	59	56	45	56	33	61	37	47	41
22	44	20	46	34	65	32	52	48	78	41	52	46	65	52	58	44	57	30	81	59	57	45	63	40	60	38	51	47
23	50	10	51	34	70	38	53	41	77	43	52	42	57	45	63	44	60	26	70	53	54	39	60	41	72	43	51	45
24	45	19	44	25	60	34	43	31	76	52	51	42	49	39	53	42	55	31	60	47	43	32	35	31	61	42	49	39
25	46	18	33	1	52	29	45	30	64	41	50	36	45	38	54	33	44	23	59	40	42	32	37	30	54	31	44	34
26	49	17	38	10	55	25	48	27	69	32	50	42	53	40	58	36	50	20	63	45	43	38	43	29	57	31	50	39
27	46	14	46	12	60	26	54	29	72	34	56	35	51	44	57	40	55	24	76	46	50	36	59	27	59	31	57	39
28	44	12	48	28	60	28	58	32	73	33	52	35	52	46	56	34	57	26	74	54	50	44	61	29	59	33	58	42
29	49	14	51	12	70	30	57	31	77	33	52	35	47	45	59	44	59	36	72	47	55	43	65	28	61	38	59	40
30	44	20	49	15	65	30	63	31	77	38	68	39	51	40	64	38	58	27	70	43	62	45	67	28	65	34	60	39
31	45	30	51	23	67	30	49	31	79	36	55	41	51	38	60	41	57	25	61	48	54	31	60	30	74	38	47	42
Mns	39.8	12.8	36.4	22.0	55.1	28.6	43.4	29.6	65.3	35.7	48.7	35.8	50.1	39.1	53.1	35.8	45.3	23.8	62.8	44.6	44.3	35.1	47.9	26.4	55.0	34.3	47.4	36.4

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	57	43	46	36	60	47	48	39	48	35	48	37	54	47	50	27	45	15	47	37	21	12	36	21	40	24
2	44	35	39	33	53	42	42	37	47	30	51	38	55	41	46	25	22	6	38	34	20	15	25	7	31	18
3	48	32	46	30	51	40	48	36	48	26	47	37	55	32	50	21	27	20	42	28	21	7	14	− 5	31	7
4	50	32	43	31	54	38	46	37	47	26	47	36	53	33	50	20	28	4	43	27	16	4	21	3	17	1
5	50	27	44	28	51	36	45	37	46	27	52	35	52	31	47	21	22	9	42	25	24	2	15	− 9	18	0
6	54	25	44	34	56	34	44	38	50	30	55	29	57	33	48	30	20	8	47	26	26	18	25	4	37	10
7	60	28	50	40	56	37	49	42	52	41	61	32	58	35	49	38	30	23	51	34	26	15	38	17	37	20
8	62	30	43	36	59	40	46	41	49	40	59	40	60	37	48	34	38	24	45	34	26	14	37	17	34	20
9	58	34	45	40	56	42	52	42	55	37	56	38	60	38	51	39	35	26	51	35	26	14	33	21	35	25
10	55	35	44	38	58	42	48	42	53	38	56	32	60	40	51	34	34	22	44	37	30	18	28	12	35	15
11	56	39	44	39	58	45	49	41	56	36	58	37	59	39	48	31	36	28	44	37	28	19	34	19	41	22
12	61	33	50	36	58	39	50	42	60	33	61	32	60	39	52	39	36	29	48	32	22	21	28	22	35	13
13	56	32	55	35	62	45	53	44	57	41	62	37	61	38	53	37	34	25	56	34	28	19	27	17	34	18
14	57	35	52	40	59	46	54	45	53	42	54	46	55	47	54	39	32	28	53	36	26	17	39	20	40	29
15	59	37	53	43	58	51	53	43	55	45	57	49	55	49	51	40	33	24	54	44	21	14	36	27	36	27
16	55	47	45	39	58	51	51	41	53	39	55	41	58	49	52	37	30	7	50	42	21	15	32	13	37	28
17	63	35	47	33	57	44	49	40	50	34	54	40	59	38	54	30	35	8	48	32	31	21	19	0	35	11
18	64	30	50	32	60	41	50	39	53	28	59	36	65	36	52	27	38	19	48	30	28	14	21	− 4	40	9
19	62	28	54	35	59	42	54	40	55	32	61	39	65	31	58	30	45	10	50	31	34	18	31	7	35	14
20	71	35	46	36	75	45	49	44	48	33	59	37	66	40	52	32	48	28	50	33	32	18	28	6	38	20
21	73	33	48	42	75	54	53	45	54	45	72	51	70	48	50	42	45	33	47	37	34	22	31	9	47	20
22	82	48	54	46	76	57	55	48	55	48	76	57	78	50	53	46	42	34	54	40	38	29	41	25	46	30
23	75	50	51	47	68	53	59	49	60	46	64	48	62	49	54	47	42	31	53	45	31	22	46	32	47	32
24	58	35	49	40	61	50	50	42	52	38	52	38	57	40	51	38	31	17	50	44	32	20	42	28	43	27
25	58	35	48	35	56	43	50	41	52	35	53	32	58	35	48	28	30	18	50	38	24	17	40	14	47	14
26	65	33	51	43	58	40	53	45	57	42	60	37	60	36	56	36	36	20	54	40	34	22	43	27	46	22
27	71	36	55	38	67	44	56	43	58	35	62	40	66	35	60	31	38	30	54	36	38	24	41	19	47	21
28	75	38	55	40	68	50	59	43	60	33	68	40	70	40	62	32	37	22	56	34	40	28	38	19	48	22
29	74	39	56	39	61	45	57	45	49	41	56	52	76	43	59	32	42	23	55	36	32	20	37	14	49	23
30	76	41	59	39	57	47	56	42	58	41	74	43	61	44	59	35	48	23	58	36	38	27	33	18	50	25
31	73	43	53	40	58	44	51	44	54	38	55	37	68	42	56	36	40	21	53	35	36	24	46	14	52	22
Means	62.0	35.6	49.0	37.5	60.1	44.3	50.9	41.8	53.0	36.6	58.5	39.7	61.1	39.8	52.4	33.3	35.6	20.7	49.5	35.2	28.8	17.7	32.7	14.0	39.0	19.0

Climatological Data for January, 1910.

DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The temperature was about normal in the northern half and considerably below normal in the southern half of the district, while the precipitation, although quite variable in localities, was, on the whole, nearly normal. The depth of snow in the mountains was increased slightly by new accumulations, but the increase at the headwaters of the streams in Montana and Wyoming was insufficient to more than overcome the loss by melting, evaporation, and settling, so the depth in these States at the end of the month was less than usual, and the spring flow from the streams in the Bitter Root and Cabinet mountains will be small unless the deficiency is overcome in February or March.

Between the 1st and the 11th the weather was controlled by a large high pressure area that moved slowly from British Columbia southeastward to the Great Salt Lake Basin, and the passage eastward of low pressure areas from the ocean was blocked. During the greater portion of this period the pressure gradients favored the occurrence of easterly winds, and a large quantity of cold air drained into the valleys. The minimum temperatures of the month were registered at most places during this period. On the 1st and 2d high northerly winds prevailed in the Puget Sound drainage area, and, owing to the direction being such an abnormal one, quite a number of minor casualties occurred in the harbors at Seattle and Tacoma, both of which are open toward the northwest. Ships broke their cables or dragged their anchors and fouled one another; piles were torn loose by the wind and waves and driven against trestles which they battered down. The damage was considerable, but no lives were lost which, in view of the severity of the gale, is remarkable.

On the morning of the 12th a low pressure area appeared off the north Pacific coast, of sufficient strength to break up the cold spell, and from this date to the end of the month milder weather prevailed. The low pressure area on the 12th was attended by high winds near the coast, and 2 ships were wrecked. One, the steamer *Czarina*, an iron vessel of 1,045 gross tons, was loaded with coal and bound from Marshfield, Oreg., to San Francisco. The vessel went ashore shortly before noon on January 12 near the north entrance to Coos Bay on the Oregon coast. The ship, cargo, and 24 lives were lost in this disaster. The other was the ship *William H. Smith*, of 1,978 gross tons, loaded with heavy timbers and bound from Chemainus, B. C., to South Africa. She lost her topgallant yards at 2:00 p. m. on January 13 when about 400 miles west-southwest of Cape Blanco, and shortly afterwards the main mast fell across the deck and the seams of the vessel opened so that she became water-logged. She was afterwards picked up by a tug and towed to Seattle without the loss of any lives.

The weather was stormy with high winds on the 17th and 18th, but no casualties occurred in connection with this storm, and during the remainder of the month there was a preponderance of high pressure areas over the Great Salt Lake Basin, which influenced the weather in the Columbia Valley by causing temperatures sufficiently low to prevent much melting of snow, and in the lowlands it stayed on the ground a longer period of time and covered larger areas than usual.

In nearly all localities winter wheat and alfalfa were well protected by snow, and no fears are entertained that these crops have been injured to any great extent by cold weather. The Idaho section director reports that peach buds and some young peach trees were killed by low temperatures in the southwestern valleys of that State, but he further remarks that there had been no warm periods prior to the cold spell to start the buds prematurely, and consequently the damage is probably less than expected.

Stock has suffered greatly by exposure, but the losses have been small on account of the general feeding, which was not done, however, without heavy expense both for labor and for feed. Considerable corn was imported for this purpose, and the large amount of hay used has so depleted the quantity held in reserve that the price has gone up until its purchase has become almost prohibitive. Sheep suffered the most, and many of them got sore mouths by trying to nibble grass that was frozen or crusted with snow; in Idaho a few bands of sheep were snowed in where feed was unobtainable, and the losses in these cases were heavy.

Building operations, in all localities, were greatly hampered by the cold weather, but the city of Boise, Idaho, suffered the most through stress of weather on account of the Horseshoe Bend power plant being obliged to shut down early in the month. Their transmission line broke during a heavy snow storm, and soon afterwards their diverting canal was seriously damaged by gophers. By the time the repairs were completed the river bed and diverting canal had become so choked with anchor ice that there was not enough water to operate the plant. The difficulty was aggravated by the breaking of the ice chute designed to keep mush ice from entering the diverting canal, and the shut-down interfered materially with the lighting systems at Boise and Emmet, with the operation of the city street cars of the Boise Railroad Company, and with the suburban and interurban service of the Boise Valley Railway Company, all of which use the power from this plant.

Railway transportation was not seriously interrupted by drifting snow, but thawing weather in Montana on the 22d caused a number of snow slides in the neighborhood of Highgate, which the engineers of the Great Northern Railway claim were the most extensive of any they have had to contend with in many years. One of these slides covered the railway track in places to a depth of 50 feet, and for a distance of 400 feet. It required a large force of men several days to clear the road so that traffic could be resumed. During this time all trains had to make a detour of 200 to 300 miles over branch and connecting lines in order to proceed to, and return from, the Pacific coast. Several workmen were caught in one of the smaller slides in the same locality, and 2 of them were killed. These slides partook of the nature of avalanches, and besides bringing down large quantities of snow, they also brought down quantities of dirt and many large rocks, which made the work of clearing the track much more laborious.

On the 18th and 19th, and again on the 23d and 24th, floods occurred in a few small streams in Oregon and Washington, due to heavy rains and thawing weather; the damage done by these floods was small, and the areas affected were limited, therefore they did not attract much attention.

TEMPERATURE.

The mean temperature as obtained from 226 stations was 27.7°, and it was below normal in nearly all sections. The greatest departures were in the Snake River Valley where the average temperatures were 2° to 7° below normal. In the Columbia Valley, from the headwaters of the branches in Montana to the mouth of the Spokane River in Washington, the mean temperatures, as a rule, were slightly above normal. In the bottom lands from the mouth of the Spokane River to The Dalles, in Oregon, the mean temperatures were 2° to 6° below normal, while elsewhere the departures were less, but in

nearly all cases were slightly below, rather than above, the normal. The warmest section was near the mouth of the Umpqua River in Oregon, where mean temperatures of 40° or more occurred. It was coldest at the headwaters of the Salmon River, which rises in the Bitterroot Mountains in Idaho; and was very nearly as cold at the headwaters of the Snake River in Yellowstone Park, and at the high-level stations in the Blue Mountains in Oregon. Most of the minimum temperatures at the different stations occurred during the first week, and most of the maximum temperatures at the beginning of the third decade. During the early part of the month the cold air draining into the valleys caused lower temperatures at low elevations than at the stations in the highlands, and a severe cold wave, lasting for several days, was experienced in the Snake River Valley, between Weiser and Pocatello. The highest mean temperature was 44.8° at Gardiner, near the mouth of the Umpqua River in Oregon, and the lowest mean temperature was 9.8° at Salmon, near the headwaters of the Salmon River in Idaho. The elevation of Gardiner is 72 feet, and Salmon is 4,040 feet above the sea. The highest temperature was 66° at Gardiner on the 30th, and the lowest was −36° at Salmon on the 3d.

PRECIPITATION.

The average precipitation as obtained from 331 stations was 3.89 inches, which is very nearly the normal amount. There was an excess of about 2 inches along the coast, while in the interior the distribution varied greatly, some places having an excess while localities near by had a deficiency. This uneven distribution was due to the preponderence of anticyclone weather and the absence of general storms, thereby causing the precipitation to be local and largely influenced by topography. The cold weather during the first decade was attended by rather heavy falls of snow in the valleys and on the windward slopes of the hills and mountains, while on their leeward slopes the fall was much lighter. In the coast counties the precipitation, which was mostly in the form of rain, ranged between 10 and 20 inches; between the Coast and Cascade ranges of mountains the average was about 4 inches, while to the east of the Cascade Mountains the amounts ranged between 1 and 5 inches, being generally between 1 and 2 inches in the lowlands, and ranging from 2 to 5 inches in the highlands with the greatest amounts at the very highest elevations. There was scarcely a day on which precipitation in measureable quantities did not fall at some station, but there were no distinctively wet and dry periods. More than the usual amount of cloudiness prevailed in the dry sections of the district, and in the wet sections there was more than the usual amount of sunshine. The greatest monthly precipitation was 22.79 inches at Glenora, which is a station in the Coast drainage area in Tillamook County, Oreg., and the least monthly amount was 0.15 inch at Buhl, Idaho, in the upper Snake River drainage basin. The greatest 24-hour fall was 4.40 inches at Glenora, Oreg., on the 18th. Other heavy 24-hour falls occurred as follows: Baker, Wash., 3.46 inches; Clearwater, Wash., 3.40 inches; Quiniault, Wash., 3.30 inches; Gold Beach, Oreg., 3.20 inches; and Hoover, Oreg., 3.00 inches.

RIVER CONDITIONS.

The average stage of the Columbia was a little more, and of the Willamette a little less, than 2 feet below that for the previous month. The Columbia, from The Dalles, Oreg., to Kennewick, Wash., was 0.7 of a foot higher than usual for this period, while both the upper and the lower Columbia and their larger tributaries were lower, the Willamette River being almost 2 feet lower than it generally is at this time of the year. The highest stages of the Columbia and the Willamette occurred on the 25th generally, but at a few stations they occurred a couple of days earlier or later. The Columbia was frozen over at Umatilla from the 1st to the 25th, and at Kennewick from the 3d to the 18th. Its stages at Vancouver, Wash., ranged from 1.5 foot on the 5th to 8.0 feet on the 25th, and at Wenatchee, Wash., the river fell from 6.9 feet on the 1st to 5.0 feet about the middle of the month, this being the only station that reported a higher stage at the beginning of the month than at some time during the last decade. On the Snake River, at Lewiston, Idaho, the water rose from 1.5 foot on the 7th to 3.9 feet on the 27th. At Salem, Oreg., on the Willamette River, there was a rise from 3.1 feet on the 18th to 11.3 feet on the 25th. After the 25th of the month, there was a slight fall in all of the small streams. In Idaho continued low temperatures filled the streams with "mush ice." Some streams were frozen entirely over for the first time in many years; in other instances the "mush ice" solidified along the banks and bottoms, forming accumulations of anchor ice, which materially lessened the stream flow.

There was a great deal of floating ice in the Snake and the Columbia rivers, and for 3 weeks beginning on the 3d traffic was suspended between Portland and The Dalles, and for a portion of this time it was seriously impeded between Astoria and Portland. Several of the smaller streams in Oregon and Washington overflowed their banks during the month, the most notable instance being in the Touchet Valley, in Columbia County, Wash., on the 18th and 19th, where there was a flood caused by rains and melting snow. Some ranches were flooded, a few cattle drowned, and trains were delayed. Floods were general in the streams of Columbia and Walla Walla counties, Wash., at this time, and at Dayton the waters of the Patit and the Touchet rivers entered the main streets, and shut off traffic with the outside world, temporarily. A few cattle were drowned in the outlying districts during this flood. On the night of the 18th, the ice jam on the Walla Walla, at London, broke, causing the river to overflow, and damage was done to ranches that were flooded. A small flood, the result of Chinook conditions, caused Wilbur Creek, in Lincoln County, Wash., to overflow its banks on the 23d and 24th. Cattle were lost and ranches inundated. None of the larger streams in this district overflowed their banks during January.

MISCELLANEOUS.

The Trowbridge-Niver Company, of Chicago, has the contract for building a large storage reservoir on Owyhee River, 60 miles from its confluence with the Snake River. This company will start work early in February and push operations as fast as permitted by the weather. The reservoir will be used in irrigating land in Malheur County, Oreg., and ultimately it is expected that nearly 200,000 acres will be benefited by the improvements contemplated in that locality. A small portion of the land is now being irrigated and the formation of a new district was necessary before any extensions could be made. This has been done, and practically every water user in the locality has joined the new organization.

The engineering work is practically complete on the irrigation project of the Owyhee Land and Irrigation Company. This project includes a dam across Castle Creek, in Owyhee County, Idaho, which will be approximately 1,500 feet long at the top, and 200 feet high over the creek bed, and which will require to complete 2,722,370 cubic yards of material. The reservoir formed by the dam will cover 700 acres, and will impound 53,000 acre-feet. The streams furnishing the water have their source in the Owyhee Mountains, which rise in places above 8,000 feet. It is proposed to irrigate 43,000 acres, of which 30,000 acres are segregated under the Carey Act. This land lies along the south side of Snake River and along Castle and Birch creeks. It slopes toward the northeast and is smooth except where broken by a series of high ridges coming down from the foothills of the Owyhees. Between these ridges are sheltered coves. The region has perhaps as mild a climate as any part of the State, and promises well as a fruit-growing section. The soil is apparently of sedimentary origin, and where crops have been grown it has proven very productive.

TABLE 1.—*Climatological data for January, 1910. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of part'ly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,300	9	21.5[a]	.....	50[a]	23	−20[a]	3	31[a]	0.77	.....	.....	8.9	6	12	15	4	.....	C. D. Demond.
Bison	Powell	7,240									1.39	.....	0.34	19.0	9	12	13	6	.....	C. H. Anderson.
Columbia Falls	Flathead	3,100	16	21.8	− 0.7	50	24	−19	3	38	2.55	+ 0.49	0.48	13.2	10	7	1	23	sw.	Mrs. I. M. Kennedy.
Como‖**	Ravalli		2	26.6	.....	52	23†	− 8	4	26	1.04	.....	0.55	12.0	4	7	18	6	.....	Hiram Platt.
Darby	...do	3,825	1																	W. A. Kerlee.
Dayton	Flathead	2,800	6																	Charles Frost.
East Anaconda‖	Deer Lodge	5,500	5	19.4	.....	46	23†	−20	3	29	0.47	.....	0.19	5.0	4	12	15	4	w.	C. D. Demond.
Fortine	Lincoln	2,975	4	20.2	.....	48	27	−22	2†	45	1.70	.....	0.38	14.8	15	10	1	20	w.	Mike Petery.
Hamilton	Ravalli	3,575	7	25.4	.....	57	22	−23	3	48	0.93	.....	0.37	6.2	9	4	20	7	s.	J. B. Currie.
Hat Creek	Powell	6,000									0.70	.....	0.24	9.6	8	16	5	10	w.	M. K. Landreth.
Kalispell	Flathead	2,965	11	22.5	+ 2.9	49	22	− 8	3	30	0.78	− 0.81	0.19	3.8	12	2	13	16	nw.	U. S. Weather Bureau.
Lost Creek	Deer Lodge	5,200																		Frank Henault.
McGinnis Meadows	Lincoln																			H. L. Beebe.
Missoula	Missoula	3,225	32	21.8	+ 0.7	53	22	−15	3	30	0.61	− 0.88	0.20	4.2	9	.....	.....	.....	sw.	U. S. Weather Bureau.
Ophir	Powell	8,800									0.30	.....	0.30	0.5	1	10	16	5	w.	E. S. Wilton.
Ovando	...do	4,207	10	13.0[a]	− 2.3	43[a]	31	−32[a]	3	52[a]	2.02	+ 0.24	0.30	20.2	16	.....	.....	.....	o.	S. B. Muchmore.
Philipsburg	Granite	5,275	7	19.6	.....	51	23	−22	2	38	1.27	.....	1.10	9.5	3	14	12	5	sw.	G. T. Bramble.
Plains	Sanders	2,475	12	24.3	− 1.4	50	22†	− 4	3	33	0.30	− 0.67	0.10	2.0	3	15	1	15	sw.	M. H. Pierce.
Pleasant Valley	Flathead	3,500	3	18.6	.....	46	22	−26	3	44	1.60	.....	0.43	8.0	12	9	12	10	.....	A. D. Stillman.
Polson	...do	2,920	2	25.5	.....	51	22	3	3†	20	0.99	.....	0.42	2.0	4	.....	.....	.....	.....	F. P. Brown.
St. Ignatius	Missoula	2,700	4	24.4	.....	56	22	− 9	3	30	0.66	.....	0.42	4.2	8	3	9	19	.....	U. S. Reclamation Service.
St. Regis	...do	2,656	2	23.0	.....	48	23	−10	3	33	3.07	.....	0.71	11.4	11	0	25	6	nc.	R. D. Lee.
Saltese	...do	3,600	6								5.84	.....	0.95	50.0	14	12	1	18	w.	E. K. Tarbox.
Snowshoe	Lincoln	4,500	4	19.1	.....	42	22†	− 9	3	23	9.17	.....	1.11	66.1	19	9	1	21	w.	J. C. Riter.
Troy	...do	1,880	14	25.6	+ 0.4	50	24	−10	3	45	4.99	+ 2.00	1.15	21.5	15	10	2	19	sw.	W. E. Milnor.
Upper Lake McDonald	Flathead	3,200	2	22.2[b]	.....	42[b]	20	− 6[b]	29	38[b]	3.26	.....	0.68	.....	13	3[b]	5[b]	21[b]	s.	F. F. Liebig.
Wyoming.																				
Afton	Uinta	6,200	6	16.8	.....	46	2	−23	13	41	0.90	.....	0.60	9.0	3	23	1	7	.....	A. V. Call.
Alta	...do		1	16.4	.....	48	24	−31	5	43	1.84	.....	0.48	23.4	14	10	6	15	sw.	Mrs. Lucy Brown.
Bedford	...do	5,900	10	15.6	− 2.4	47	24	−26	5	43	1.17	− 0.79	0.31	10.8	8	7	6	18	w.	C. G. Heiner.
Snake River	Yellowstone Park	7,000	4								5.40									U. S. Army.
Nevada.																				
San Jacinto	Elko					47	31				0.43	.....	0.36	9.5	2	13	0	18	nw.	Moses Jones.
Utah.																				
Standrod	Boxelder		6	23.5	.....	52	22	− 7	5	33	1.47	.....	0.58	1.9	7	19	6	6	sw.	T. B. Jones.
Idaho.																				
Atlanta	Elmore	5,500	4																	H. Warder Lewis.
Albion	Cassia		8	23.7	.....	50	23†	−15	6	42	1.75	.....	1.00	20.0	5	4	13	14	w.	G. A. Axline.
Almo	...do		2								1.64	.....	0.87	15.0	4	17	7	7	.....	Wm. L. Eames.
American Falls	Oneida	4,341																	.....	O. H. Barber.
Blackfoot	Bingham	4,503	15	15.4	− 7.3	48	24	−23	6	39	0.98	+ 0.10	0.58	14.0	11	4	19	8	nc.	E. A. Dowd.
Blackfoot Dam	...do		2	13.8	.....	41	24	−25	13	40	1.83	.....	0.71	24.0	14	2	18	11	w.	N. W. Irsfield.
Blanche	Lincoln		2					− 9	4							6	0	25	w.	Mrs. Belle Hess.
Bock's Ranch	Elmore	3,500									2.09	.....	0.46	24.4	14	.....	.....	.....	.....	William Bock.
Bogus Creek	Boise	4,200	2																	F. P. Ingraham.
Boise	Ada	2,770	25	24.2	− 5.1	51	31	− 8	4	35	1.55	− 0.34	0.58	17.6	18	2	8	21	nw.	U. S. Weather Bureau.
Bonners Ferry	Bonner	1,850	4	25.2	.....	49	24	− 7	3	27	1.74	.....	0.49	11.0	12	6	15	10	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800									4.12		0.86	62.5	17	10	8	13	.....	Patrick Moriarty.
Buhl	Cassia	3,800	4	22.9[a]	.....	47[a]	15†	−10[a]	6	37[a]	0.15	.....	0.10	5.0	2	17	7	7	w.	H. J. Idema.
Burke	Shoshone	4,082	3	22.2	.....	44	23	− 8	3	26	5.71	.....	1.05	58.5	18	7	5	19	nw.	W. Alvin Hall.
Caldwell	Canyon	2,372	6	22.8	.....	46	24	−21	3	40	1.10	.....	0.33	14.5	10	2	12	17	c.	Prof. Wm. J. Boone.
Camas	Fremont	4,815	2	7.7	.....	42	23	−33	6	44	1.11	.....	0.60	11.5	8	14	9	8	n.	Mrs. Edna Faulkner.
Cambridge	Washington	2,651	13	16.7	− 6.0	41	24	−27	3	41	3.88	+ 0.33	0.91	37.3	15	.....	.....	.....	w.	Chas. H. Shepherd.
Chesterfield	Bannock	5,424																	.....	Chas. S. West.
Clawson	Fremont													14.5	....	9	8	14	.....	E. J. Hopkins.
Cœur d'Alene	Kootenai	2,157																	.....	Jos. T. Scott.
Cottonwood Creek	Boise	4,000																		Frank Hedrick.
Crawford	...do	4,300	3	18.7	.....	45	23†	−25	3	43	2.00	.....	0.50	38.0	7	8	4	19	sw.	Mrs. Gertrude Kerby.
Culdesac	Nez Perce	1,520	2	27.6	.....	50	25	− 4	3	30	1.16	.....	1.00	11.0	5	11	10	10	.....	R. R. Richmond.
Deary	Latah			24.4		48	23	−12	3	31				52.5	....	12	3	16	e.	H. M. Call.
Dent	Nez Perce	1,350	5	24.2	.....	42	24	0	3†	28	3.26	.....	0.90	15.0	15	2	13	16	.....	Emil Schuessler.
Driggs	Fremont	6,097	3	14.0	.....	45	24	−33	5	56	1.70	.....	0.48	2.00	11	6	7	18	sw.	Walter H. Durrant.
Edie	...do			10.7	.....	40	24	−23	6	33	1.32	.....	0.80	21.0	5	16	10	5	n.	Geo. B. Edie.
Edwardsburg	Idaho	4,500		15.0		42	22	−26	3	39				18.0	....	7	0	24	w.	W. A. Edwards.
Emmett	Canyon	2,350	4	22.2	.....	48	24	−13	3	28	1.40	.....	0.33	14.2	10	4	7	20	se.	E. L. Marvin.
Forney	Lemhi																			M. B. Merritt.
Garden Valley	Boise	3,600	....	22.8	.....	48	31	−15	3†	40	4.99	.....	0.80	43.0	12	.....	.....	.....	.....	Mrs. Gertrude M. Roes.
Garnet	Elmore	2,575	11	27.4	− 7.0	56	24	− 4	6	23	0.49	− 0.28	6.25	6.5	3	15	8	8	w.	Asa A. Kenison.
Gilbert	Nez Perce	3,030																		J. B. Loomis.
Glenns Ferry	Elmore	2,569	2	26.8	.....	53	24	−17	3	35	0.89	.....	0.41	4.5	6	11	12	8	.....	I. E. Perkins.
Gooding	Lincoln	3,572	....	21.0	.....	45	24	−22	5	38	0.71	.....		13.5	8	10	12	9	c.	John Krall, jr.
Grand Forks	Shoshone	3,000				37	24				6.25	.....	1.16	62.4	14	6	5	20	c.	Henry Kottkey.
Grandview	Owyhee	2,381	....	23.6	.....	48	24†	−15	4	35					4	13	9	9	se.	N. G. Massey.
Green Timber	Fremont																			Otto Stegelmeier.
Grimes Pass	Boise	5,200									3.96	.....	1.13	51.9	13	.....	.....	.....	.....	Joseph M. Clarke.
Guffey	Owyhee	2,381	2	25.6[c]	.....	46[c]	21	− 9	4	35[c]	0.50	.....	0.26	6.0	3	25	0	6	c.	Fred Perry.
Hailey	Blaine	5,347	6	16.4	.....	42	24	−17	6†	31	1.38	.....	0.60	18.0	8	8	8	15	sw.	U. S. Forest Service.
Hotspring	Owyhee	2,752	5	27.8	.....	56	23	− 8	6	28	0.44	.....	0.44	6.0	1	4	17	10	.....	J. M. Waterhouse.
Idaho City	Boise	4,000	10								2.68	+ 0.60	0.88	32.0	6					Mrs. Emma Hammer.
Idaho Falls	Bingham	4,742	16	15.2	− 3.3	39	24	−19	3	38	1.50	− 0.06	0.89	15.0	9	14	4	13	s.	Dr. T. M. Bridges.
Indian Valley	Washington	2,999	2								2.33	.....	0.70	32.0	7	15	2	14	n.	W. E. Henke.
Irwin	Bingham	6,500	....	20.6	.....	49	24	−21	5	38				9.5	4	17	6	8	.....	Eva Johnston.
Kellog	Shoshone	2,330	6	25.0	.....	48	30	− 1	3	30	2.03	.....	0.45	20.1	17	9	1	21	sw.	W. McM. Huff.
Kirkham	Boise										5.23	.....	1.05	54.0	11	4	10	17	c.	Mrs. Josie B. West.
Kooskia	Idaho	1,261	2	25.0		50	23	− 4	12	30	1.66	.....	0.50	10.5	9	8	6	17	sw.	U. S. Forest Service.
Lake	Fremont	6,700	21	12.5	− 2.5	40	22	−30	3	30	0.50	− 1.77	0.30	14.0	3	.....	.....	.....	nw.	J. Sherwood.
Lakeview	Bonner	2,250	13	26.0	− 2.9	47	31	4	3†	25	2.40	− 0.90	0.70	16.0	10	5	3	23	sw.	E. D. Faust.
Landore	Washington	5,300	6	20.2	.....	42	23	− 8	5	25	3.98	.....	0.65	42.9	17	10	2	19	.....	Mrs. Emma L. Brown.
Lewiston	Nez Perce	757	17	31.2	− 3.3	55	22	0	3	25	1.11	− 0.47	0.29	3.0	9	1	13	17	c.	U. S. Weather Bureau.
Little Camas	Elmore	5,000	2								2.21	.....	0.44	25.8	12	12	15	4	w.	Solon McCoy.
Long Gulch	...do	4,500														13	7	11	.....	Mrs. Elizabeth A. Hjort.
Loon Creek	Custer	6,000	....	15.4	.....	45	22	−29	3	41	1.46	.....	0.33	22.1	10	14	12	5	sw.	Mrs. Emma Walter.
Lost River	Blaine	5,700																		Mrs. Mary L. Lemon.
Lowry	Owyhee		2	23.4	.....	52	22	−21	3	42	1.05	.....	0.56	11.0	5	19	4	8	nw.	W. D. Winter.
McCall	Boise	5,025	5	14.0	.....	40	23	−26	3	37	3.30	.....	1.20	30.0	9	2	14	15	.....	U. S. Forest Service.
Mackay	Custer	5,897	3	10.8	.....	43	24	−23	6	39	1.40	.....	0.53	22.0	5	18	0	13	nw.	Do.
Meadows	Washington	3,950	6	18.6	.....	39	24	−21	3	40	3.84	.....	0.70	57.0	17	7	12	12	.....	Chas. A. Hackney.

TABLE 1.—*Climatological data for January, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Idaho—Cont'd.																				
Milner	Cassia	4,097	7	20.3	.....	46	15†	−18	6	29	1.80	.....	0.60	16.0	6	16	15	0	e.	R. A. Hanson.
Moscow	Latah	2,748	18	26.6	− 2.4	46	23†	2	3†	17	2.58	− 0.24	0.41	22.2	14	8	5	18	e.	University of Idaho.
Mountainhome	Elmore	3,150	5	23.4	.....	50	24	−19	5	39	0.82	.....	0.26	8.7	7	7	14	10	se.	Mrs. Ellen Manion.
Murtaugh	Cassia	.....	4	19.0	.....	52	23	−22ª	6	39ª	1.17	.....	.....	14.0	6	8	18	5	w.	J. E. Steinour.
Nez Perce	Nez Perce	3,182	.....	25.2	.....	48	23	−15	3	37	1.16	.....	0.61	10.2	44	20	0	11	.....	P. Mitchell.
Oakley	Cassia	4,191	17	21.6	− 7.6	52	23	−10	3†	43	1.50	+ 0.57	0.85	20.5	3	9	19	3	s.	John Adams.
O'Hara Bar	Idaho	1,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	6	7	ne.	U. S. Forest Service.
Orofino	Nez Perce	1,027	5	26.6	.....	46	24	− 1	3	29	2.56	.....	0.53	14.0	14	8	16	7	.....	Geo. Alteneder.
Payette	Canyon	2,159	20	20.0	− 9.0	42	23	−26	3	38	1.16	− 0.42	0.27	11.0	11	4	5	22	n.	E. F. Allen.
Pebble	Bannock	5,277	.....	19.3	.....	47	24	−17	5	49	2.64	.....	0.90	12.1	7	6	10	15	sw.	Mrs. Fannie Say.
Pierson	Custer	7,000	2	.....	.....	.....	.....	.....	.....	.....	1.97	.....	0.90	13.0	4	18	0	13	s.	David P. Clarke.
Pine	Elmore	4,100	.....	.....	.....	.....	.....	.....	.....	.....	5.06	.....	0.90	48.6	15	6	8	17	.....	Mrs. Jennie Potter.
Placerville	Boise	4,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James McDevitt.
Pleasant Valley	Ada	3,000	3	21.6	.....	46	24	−18	5	39	1.01	.....	0.45	9.2	9	8	2	21	se.	C. E. Friedrich.
Pocatello	Bannock	4,483	11	20.7	− 4.4	54	23	−15	6	31	1.46	+ 0.80	0.93	11.5	9	3	12	16	se.	U. S. Weather Bureau.
Pocatello Nursery	do	5,396	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Anna M. Wrensted.
Poplar	Bingham	.....	2	17.5	.....	42	23†	−24	5	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	Stanley Bybee.
Porthill	Bonner	1,665	22	22.4	− 1.9	48	22	− 9	3	27	1.35	− 1.71	0.40	21.0	16	10	1	20	.....	H. A. French.
Powers Ranch	Boise	4,300	.....	.....	.....	.....	.....	.....	.....	.....	3.58	.....	0.70	35.7	12	17	11	3	w.	Mrs. Mona B. Powers.
Pyle Creek	do	3,100	.....	.....	.....	.....	.....	.....	.....	.....	3.95	.....	0.69	61.5	14	8	8	15	.....	Walter L. Cole.
Rattlesnake Creek	Elmore	4,000	.....	.....	.....	.....	.....	.....	.....	.....	2.64	.....	0.44	31.0	16	6	9	16	nw.	Richard M. Green.
Ruby Creek	Boise	4,400	.....	.....	.....	.....	.....	.....	.....	.....	4.08	.....	0.91	43.5	17	15	1	15	w.	O. A. Hatter.
Rupert	Lincoln	4,204	4	19.0	.....	48	24	−23	6	36	1.07	.....	0.42	17.5	9	14	6	11	e.	Will Parry.
Salmon	Lemhi	4,640	5	9.8	.....	51	31	−36	3	43	0.80	.....	0.21	9.8	8	16	2	13	n.	E. K. Abbott.
Salmon River Dam	Twin Falls	.....	2	23.6	.....	46	22	− 3	4†	25	1.20	.....	0.45	18.2	7	8	12	11	s.	Arch M. Gilbert.
Sheep Hill	Boise	5,000	2	.....	.....	.....	.....	.....	.....	.....	3.88	.....	1.27	36.5	8	.....	.....	.....	.....	Clifford M. Gardner.
Shoshone	Lincoln	3,968	2	19.4	.....	40	24	−22	5	32	0.97	.....	0.32	10.5	11	2	27	2	e.	O. A. Truman.
Silver City	Owyhee	6,280	3	.....	.....	.....	.....	.....	.....	.....	1.68	.....	0.37	15.9	14	10	13	8	s.	A. D. Bradfield.
Smith Prairie	Elmore	5,200	.....	.....	.....	.....	.....	.....	.....	.....	2.87	.....	0.70	29.5	9	.....	.....	.....	.....	Wm. W. Newell.
Soldier	Blaine	5,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. W. Leek.
Sugar	Fremont	.....	3	12.9	.....	41	24	−25	3†	42	2.00	.....	0.90	21.6	9	7	14	10	sw.	Geo. F. Webb.
Sunnyside	Elmore	.....	.....	21.0	.....	47	25	−13	6	43	0.45	.....	0.25	8.2	4	.....	.....	.....	se.	E. A. Wilmot.
Tilden	Bingham	4,420	2	13.8	.....	47	24	−27	3	57	1.30	.....	0.50	15.0	6	8	14	9	sw.	Mrs. W. A. Edwards.
Tripod Mountain	Boise	4,300	.....	.....	.....	.....	.....	.....	.....	.....	3.11	.....	0.65	41.9	14	11	6	14	.....	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	5	20.4	.....	48	24	−20	3†	33	1.35	.....	0.40	17.0	12	0	30	1	se.	J. A. Waters.
Vernon	Fremont	.....	13	15.9	− 3.2	39	31	−32	5	36	2.15	+ 0.44	0.33	28.5	14	7	12	12	e.	A. M. Slatery.
Wallace	Shoshone	2,728	3	25.8	.....	44	22	− 1	3	20	6.12	.....	1.12	.....	20	.....	.....	.....	e.	U. S. Weather Bureau.
Wendell	Lincoln	3,400	2	21.5	.....	48	24	−21	3	53	0.82	.....	0.29	12.5	5	6	14	11	ne.	Chas. L. Dingler.
Washington.																				
Aberdeen	Chehalis	162	19	37.4	− 2.4	53	23†	17	2	21	14.39	+ 3.33	2.4	1.2	22	1	23	7	w.	Carl S. Weatherwax.
Anacortes	Skagit	60	16	37.8	− 1.0	54	23	16	2	21	4.06	+ 0.72	1.12	0.5	18	7	13	11	.....	Douglas Allmond.
Baker	do	200	4	33.8	.....	47	7	11	2	23	13.40	.....	3.46	7.7	16	6	6	19	.....	Robt. M. White.
Bellingham	Whatcom	60	15	46.0	− 6.1	71	24	15	1	31	3.65	+ 0.26	0.75	1.0	12	14	8	9	.....	Sanford B. Mayhew.
Blaine	do	53	13	35.8	− 0.3	50	24	12	4	21	6.23	+ 0.59	1.08	4.5	22	4	5	22	se.	John W. Sheets.
Blewett	Chelan	2,200	.....	.....	.....	.....	.....	.....	.....	.....	4.32	.....	0.85	23.2	15	13	0	18	.....	John Burmeister.
Bremerton	Kitsap	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.22	.....	2.09	.....	18	.....	.....	.....	.....	U. S. Navy Yard.
Brewster	Okanogan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. H. F. Bertram.
Bumping Lake	Yakima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Cashmere	Chelan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Valley Power Co.
Cedar River	King	.....	3	.....	.....	.....	.....	.....	.....	.....	7.46	.....	1.95	9.2	15	7	3	21	.....	George Landsburg.
Centralia	Lewis	212	17	38.2	− 0.3	58	22	15	2	24	8.55	+ 3.77	1.55	T.	20	4	8	19	s.	I. S. Turner.
Cheney	Spokane	2,351	11	29.6	.....	60	24	0	1	42	1.00	− 0.99	0.60	10.0	3	16	7	8	ne.	Northern Pacific Ry.
Clealum	Kittitas	1,930	11	23.6	− 4.8	47	30	− 8	3†	30	2.04	− 2.22	0.80	19.0	10	12	11	8	ne.	J. A. Balmer.
Clearbrook	Whatcom	140	7	34.0	.....	50	21	12	2†	20	7.32	.....	1.21	4.0	17	3	7	21	ne.	Geo. Gibbs.
Clearwater	Jefferson	135	14	35.5	− 3.9	59	25	18	2	28	22.23	+ 5.51	3.46	2.8	24	6	7	18	.....	A. Ritchie.
Colfax	Whitman	2,300	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. James.
Colville	Stevens	1,635	10	23.2	+ 1.3	49	24	−12	4	29	1.55	− 0.68	0.42	9.0	11	7	4	20	sw.	W. L. Sax.
Conconully	Okanogan	2,300	10	23.8	+ 0.7	45	24	− 8	2†	29	2.42	+ 1.19	0.57	14.2	10	5	6	20	n.	Wm. Baines.
Cowiche	Yakima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Crescent	Lincoln	2,250	10	25.0	− 1.7	46	24	− 7	4	22	1.53	− 0.29	0.17	5.5	14	12	5	14	s.	Otto Wollweber.
Davenport	do	2,450	1	23.3	.....	46	24	− 6	4	26	0.79	.....	0.14	6.0	13	12	7	12	e.	W. H. Reed.
Dayton	Columbia	1,700	24	31.0	− 1.8	59	24	− 2	11	34	3.04	+ 0.20	0.67	10.0	13	7	6	18	.....	W. W. Hendron.
Detroit	Mason	30	2	37.3	.....	55	22	19	3	18	11.58	.....	3.00	1.0	23	7	5	19	s.	Walter O. Eckett.
Dixie	Walla Walla	5,000	1	.....	.....	.....	.....	.....	.....	.....	6.44	.....	1.16	43.8	15	7	3	21	se.	T. Z. Andrews.
Duckabush	Jefferson	380	2	36.8ª	.....	45ª	23†	13ª	2	19	.....	.....	.....	.....	22ᵇ	5ᵇ	2ᵇ	22ᵇ	sw.	E. J. Finch.
East Sound	San Juan	500	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benj. E. Harrison.
Ellensburg	Kittitas	1,571	22	21.4	− 3.9	46	30	−10	3	31	1.13	− 0.36	0.57	5.6	5	9	7	15	e.	R. Lee Barnes.
Ephrata	Grant	1,265	7	27.3	.....	50	31	− 3	4	32	0.25	.....	0.10	2.5	3	14	0	17	n.	T. J. Cook.
Forks	Clallam	480	1	38.5	.....	52ᵇ	23	22ᵇ	4	15	20.25	.....	2.90	4.5	25	8	7	16	ne.	E. A. Markham.
Fort Simcoe	Yakima	1,427	16	28.6	− 2.2	52	30	4	5	29	1.61	− 0.80	0.50	4.1	6	13	5	13	.....	Frank C. Hill.
Goat Lake	Shohomish	2,900	1	.....	.....	.....	.....	.....	.....	.....	14.65	.....	2.58	23.2	18	.....	.....	.....	.....	C. M. Mackintosh.
Gold Creek	Yakima	2,600	1	.....	.....	.....	.....	.....	.....	.....	1.58	.....	0.40	11.8	10	7	16	8	w.	John W. Anderson.
Goldendale	Klickitat	1,600	4	25.8	.....	46	28	− 2	3	24	1.69	− 0.74	0.55	1.3	12	4	11	16	w.	Klickitat Co. Abstract Co.
Granite Falls	Snohomish	397	7	.....	.....	.....	.....	.....	.....	.....	6.07	.....	1.34	.....	22	4	4	23	se.	C. H. Cleaver.
Hatton	Adams	1,100	5	27.8	.....	52	22	− 1	12	32	0.85	.....	0.36	4.0	7	6	5	20	nw.	Dr. A. V. Marion.
Huntsville	Columbia	1,400	2	.....	.....	.....	.....	.....	.....	.....	3.86	.....	1.10	4.0	10	8	9	14	.....	Dr. B. Hill.
Irene Mountain	Okanogan	3,015	1	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.30	7.3	5	10	6	15	sw.	Manda Shain.
Kennewick	Benton	367	15	30.4	− 0.8	57	30	7	3†	23	1.23	+ 0.29	0.35	3.5	5	.....	.....	.....	.....	L. W. Soth.
Kettle Falls	Stevens	1,265	1	26.2	.....	47	28†	− 8	4	23	1.06	.....	0.20	.....	11	12	10	9	.....	Harry H. Cole.
Kiona	Benton	430	5	30.4	.....	55	27†	5	4†	26	0.91	.....	0.33	1.8	6	12	7	12	sw.	Dr. F. S. Hedger.
Kosmos	Lewis	775	4	32.8	.....	51	22†	9	5	27	6.98	.....	1.14	12.0	19	1	17	13	ne.	J. A. Uleh.
La Center	Clarke	250	13	33.9	− 4.3	54	21†	13	3†	25	6.79	+ 6.49	1.75	10.5	18	4	5	22	sw.	Joseph Brothers.
La Crosse	Whitman	1,402	1	29.2	.....	53	22	− 5	12	39	2.40	.....	0.42	7.0	14	9	2	20	e.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	1	.....	.....	.....	.....	.....	.....	.....	7.10	.....	1.91	51.0	15	7	4	20	nw.	U. S. Reclamation Service.
Lake Kachess	do	2,235	2	24.8	.....	39	18	− 1	3	26	7.27	.....	1.20	55.0	17	5	11	15	e.	Do.
Lake Keechelus	do	2,479	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Lakeside	Chelan	1,116	19	24.9	− 1.3	45	18	2	4	21	1.14	− 0.45	0.29	8.0	12	4	12	15	e.	W. H. Van Meter.
Laurel	Klickitat	1,900	.....	.....	.....	.....	.....	.....	.....	.....	5.78	.....	1.20	30.8	20	6	12	13	w.	Mrs. Minnie E. Strout.
Laurier	Ferry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. J. S. Myers.
Lester	King	1,614	6	30.4	.....	48	23	6	2	27	7.73	.....	1.85	36.0	16	6	1	24	.....	W. W. Clabaugh.
Lone Tree	Chehalis	9	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. A. Engineer Corps.
Longmires Springs	Pierce	2,800	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Lost Creek Springs	Okanogan	3,125	1	.....	.....	.....	.....	.....	.....	.....	1.60	.....	0.50	7.5	9	6	7	18	sw.	P. H. Leese.
Lyle	Klickitat	600	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Morginson.
McCumber's Ranch	Yakima	2,182	1	.....	.....	.....	.....	.....	.....	.....	2.70	.....	0.80	26.5	8	6	6	19	sw.	Mrs. Mary McCumber.
Mottinger	Benton	307	10	30.8	− 4.5	60	30	6	3	27	1.02	+ 0.01	0.44	2.4	8	9	5	17	.....	G. H. Mottinger.
Mount Pleasant	Skamania	650	10	35.8	− 2.7	60	23	12	12	27	7.40	+ 0.62	1.25	9.0	14	15	1	15	e.	F. M. Grout.

TABLE 1.—*Climatological data for January, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Washington—Cont'd.																				
Moxee	Yakima	1,000	18	27.0	− 2.8	58	30	− 7	3†	35	0.87	− 0.61	0.40	4.1	9	4	12	15	.....	Henry B. Scudder.
Newport	Stevens			22.4		44	24†	−15	3	36						8	7	16	.....	Chas. M. Talmadge.
North Head	Pacific	211	8	39.0	− 2.8	52	23	21	2	15	10.94	+ 4.26	1.47	0.1	23	5	0	26	e.	U. S. Weather Bureau.
Northport	Stevens	1,950	11	24.4	+ 1.4	53	30	−12	4	40	0.98	− 1.01	0.20	8.0	11	10	14	7	.....	John Palm.
North Yakima	Yakima	1,076	1	27.5	.....	58	30	0	4	28	0.73	.....	0.37	3.8	8	9	7	15	e.	Albert Bender.
Nutland	Klickitat		1	30.2	.....	57	30	7	3	22	1.43	.....	0.35	3.6	10				.....	J. R. Shepard.
Odessa	Lincoln	1,540	7	26.4	.....	50	31	− 2	4	34	1.05	.....	0.50	4.5	5	6	19	6	sw.	Wm. U. Neeley.
Olga	San Juan	50	20	38.5	− 1.1	55	23	18	1	17	5.47	+ 2.24	1.47	0.0	16	3	7	21	so.	Cecil S. Willis.
Olympia	Thurston	200	32	36.9	− 1.8	55	22†	16	2†	22	10.19	+ 2.28	2.95	2.5	25	5[a]	7[a]	18[a]	sw.	M. O'Connor.
Omak	Okanogan		1	22.1[b]	.....	44[b]	19	−10[b]	4†	27[b]	1.80	.....	0.90	9.2	8	2	11	18	s.	Wm. G. Tait.
Oroville	....do	922	1	25.7	.....	47	30	0	6	22	1.09	.....	0.55	4.0	6	12	6	13	s.	A. M. Dufield.
Peola	Garfield	5,000	1								2.12	.....	0.32	21.7	19	8	8	15	sw.	Samuel Gruell, sr.
Pomeroy	....do	1,500	18	29.2	− 5.0	57	22	2	11	23	1.97	− 0.32	0.91	7.5	8	12	7	12	w.	Peter McClung.
Port Crescent	Clallam	259	13	36.2	+ 0.2	53	13	17	2	22	6.57	+ 1.04	2.30	4.8	21	1	12	18	s.	U. S. Weather Bureau.
Port Townsend	Jefferson	80	20	38.9	+ 0.2	55	22	20	2	16	2.05	− 0.17	0.42	T.	17	7	2	22	se.	Frank Plummer.
Pullman	Whitman	2,550	18																.....	State Agricultural College.
Quinisult	Chehalis	300	3	35.6	.....	49	12	16	2	19	21.57	.....	3.30	1.0	26	3	9	19	se.	A. V. Higley.
Republic	Ferry	2,628	10	21.4	− 3.3	49	22	−13	3	29	1.10	.....	C.38	7.0	9	12	0	19	nw.	Geo. B. Stocking.
Rex Creek	Chelan	1,135	3	30.8[m]	.....	48[k]	28	11[m]	2	22[m]						5[j]	0[j]	15[j]	.....	James W. Nicol.
Ritzville	Adams	1,825	11								1.22	+ 0.21	0.21	.....	12				.....	Northern Pacific Ry.
Rock Lake	Whitman	1,750	4	27.6[a]	.....	48	22†	6	3†	25	1.35	.....	0.23	5.3	10	13	1	17	s.	P. M. Ramsey.
Rosalia	....do	2,425	18	28.0	− 0.8	49	24	4	3†	21	2.64	+ 0.52	0.49	6.6	16	3	13	15	se.	Hans Mumm.
Russells Ranch	Yakima	2,870	1																	Maggie M. Russell.
Scenic Hot Springs	King	2,021																		J. V. Prosser.
Seattle	....do	123	19	39.0	− 0.3	55	23	22	2	13	5.08	+ 0.56	1.03	2.5	22	4	7	20	se	U. S. Weather Bureau.
Sedro-Wooley	Skagit	38	13	36.4	− 1.9	53	22	10	2	20	4.40	− 0.78	0.89	.....	20	5	6	20	.....	Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	3	29.6	.....	56	30	3	3	22	0.91	.....	0.24	3.1	10	3	5	23	sw.	C. E. Comstock.
Skagit Power Dam	Whatcom	123																		Skagit Power Co.
Snohomish	Snohomish	50	16	36.4	− 2.2	53	21	12	2	21	4.50	− 0.21	1.45	2.0	16	3	2	26	se.	Warren Hodge.
Snoqualmie Falls	King	667	11	36.2	− 1.2	55	23†	14	2	16	7.15	− 1.01	1.74	.....	21	17	0	14	.....	O. N. Wiswell.
Snyders Ranch	Okanogan	2,300	1								2.66	.....	0.54	29.0	10	11	14	6	ne.	Geo. M. Snyder.
South Bend	Pacific	16	15																	Miss Winifred Eichner.
Spokane	Spokane	1,943	29	28.2	+ 1.5	48	22	3	6	18	1.28	− 1.02	0.28	4.9	16	3	5	23	s.	U. S. Weather Bureau.
State University	King	170	1	37.0	.....	52	22†	18	2	14	5.95	.....	1.07	5.5	21	8	6	17	se.	University of Washington.
Stokes Ranch	Okanogan	2,670	1								2.50	.....	0.49	28.0	8	11	9	11	se.	Amos Stokes.
Sullivan Lake	Stevens	2,700									2.43	.....	0.33	17.2	16	9	0	22	.....	U. S. Forest Service.
Sumner	Pierce	77	2	36.5	.....	53	30	13	2	23	6.28	.....	1.83	1.2	19	5	10	16	n.	H. E. Thompson
Sunnyside	Yakima	740	15	30.0	− 0.4	62	30	4	3	31	6.79	− 0.14	0.37	2.5	7	6	11	14	w.	U. S. Reclamation Service.
Tacoma	Pierce	213	24	38.6	+ 0.5	54	22	22	5	17	7.66	+ 1.88	2.06	0.6	22	4	5	22	sw.	U. S. Weather Bureau.
Tatoosh Island	Clallam	86	25	40.1	− 1.1	53	23	30	2	15	11.05	− 1.11	2.15	1.6	24	4	2	25	e.	Do.
Tieton	Yakima	2,000	1	23.4	.....	50	30	− 3	3	23	3.19	.....	0.90	10.2	14	12	4	15	e.	U. S. Reclamation Service.
Touchet	Walla Walla	356	3	29.4	.....	55	24†	2	3	22	1.40	.....	0.63	5.1	10	6	9	16	se.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500	1								5.56	.....	1.10	46.0	7	7	3	21	sw.	R. H. King.
Trinidad	Grant	900	6	25.6	.....	53	30	0	3†	26	1.82	.....	0.67	5.0	7	10	5	16	e.	J. C. Wheeler.
Twisp	Okanogan	1,619	7																.....	J. S. Allen, jr.
Tyee	Chelan	2,000	1								3.88	.....	1.32	25.2	12	5	10	16	w.	Elias McCrea.
Vancouver	Clarke	100	35	35.8	− 1.9	53	24	15	4	23	6.47	+ 0.74	1.47	7.0	23	4	1	26	s.	A. A. Quarnberg.
Vashon Island	King	110	21	38.3	− 0.2	53	22†	23	5	16	7.50	+ 2.05	1.52	0.0	22	7	3	21	s.	Miss Gertrude McClintock.
Wahluke	Grant	410	6	29.3	.....	58	30	1	4	26	0.82	.....	0.62	1.4	6	10	10	11	.....	F. C. Koppen.
Wallace	Okanagon	4,000	1								2.39	.....	0.66	15.7	12	3	11	17	s.	G. A. Wallace.
Walla Walla	Walla Walla	1,000	26	31.2	− 2.0	61	23	7	3	40	2.42	+ 0.41	0.80	8.2	14	4	4	23	s.	U. S. Weather Bureau.
Waterville	Douglas	2,624	20	19.4[a]	− 2.5	54[a]	30	−12	3	28	1.17	− 0.55	0.52	5.8	7	14	6	11	.....	O. R. Hopewell.
Wenatchee (near)	Chelan	1,169	11	24.2	− 2.5	47	30	1	5	24	1.40	−0.45	0.38	7.5	12	5	10	16	w.	Geo. A. Pitcher.
West Branch	Stevens	2,600																	.....	U. S. Forest Service.
Wilbur	Lincoln	2,203	11	23.9	+ 0.2	48	23	− 7	4	25	1.65	− 0.21	0.75	8.0	8	8	3	20	s.	Rollin J. Reeves.
Yale	Cowlitz	375	3	36.2	.....	51	30	11	2	27	15.75	.....	2.85	25.5	21	9	5	17	sw.	L. F. Williams.
Zindel	Asotin	715	8	33.2	.....	56	24	8	3†	27	2.32	.....	1.82	.....	4	12	10	9	n.	M. W. Zindel.
Oregon.																				
Albany	Linn	214	28	37.5	− 1.6	55	23	15	3†	18	6.54	− 0.73	0.90	1.0	20	5	8	18	s.	F. M. French.
Ashland	Jackson	1,940	22	36.9	− 1.6	60	23	15	3	29	1.27	− 1.76	0.30	5.5	12	1	10	20	se.	F. H. Carter.
Astoria	Clatsop	11	48	41.7[b]	+ 1.8	53[b]	21	31[b]	9	14[b]									.....	Irving Club.
Baker City	Baker	3,466	20																.....	U. S. Weather Bureau.
Bay City	Tillamook	14	15	40.8[a]	− 2.6	60[a]	21	18	5	24[a]	15.24	+ 1.10	2.25	T.	27	5	1	25	se.	J. O. Bozarth.
Bend	Crook	3,629	8																	F. O. Minor.
Birch Creek	Wheeler	2,900	1	30.5	.....	55	30	− 4	3	26	0.65	.....	0.43	5.5	7	4	16	11	w.	F. S. Matteson.
Black Butte	Lane	1,200	9	34.8	.....	48	23	10	3	22	4.45	.....	0.98	6.0	11	9	11	11	ne.	William Harris.
Blalock	Gilliam	235	11	30.9	− 5.1	59	30	9	3	25	1.24	− 0.15	0.36	2.5	6	3	7	21	w.	Geo. W. Long.
Buckhorn Farm	Josephine	1,300	12	36.1	− 3.6	61	30	11	5	26	10.02	− 3.54	1.66	15.5	17	7	0	24	s.	E. F. Meissner.
Cascade Locks	Hood River	100	19	32.0	− 5.2	52	30	11	4	17	13.42	+ 1.50	2.08	25.0	19	8	6	17	e.	Val. W. Tompkins.
Casadero	Clackamas	514	1	38.3	.....	57	23	15	3	22	9.12	.....	1.56	5.8	20	4	7	20	se.	Alf Drill.
Condon	Gilliam	2,888	2	26.0	.....	52	30	− 5	3	26	0.61	.....	0.13	5.5	12	5	11	15	sw.	C. H. Williams.
Connor Creek	Baker	1,800		27.1	.....	46	24	− 2	6	24	1.43	.....	0.50	10.0	10	8	8	15	s.	R. C. Eisele.
Corvallis	Benton	600	21																.....	Oregon Agricultural Coll.
Dayville	Grant	1,500	15	31.4	− 4.3	57	23	− 4	3	29	0.29	− 1.20	0.10	3.7	4	12	7	12	se.	Dr. Campbell-Martin.
Doraville	Columbia	600	8	34.2	.....	53	22	15	2†	19	7.88	.....	1.70	20.2	23	2	4	25	se.	Jos. Hackenberg.
Drain	Douglas	300	7	39.8	.....	59	12	14	3	32	6.37	.....	1.65	1.5	21	1	23	8	sw.	Ira Wimberly.
Echo	Umatilla	625	5	29.4	.....	57	30	1	3	33	1.18	.....	0.53	2.5	8	7	6	18	w.	R. B. Stanfield.
Ella	Morrow	830	5	29.0	.....	60	30	0	4	30	0.84	− 0.50	0.22	5.0	10	8	6	17	sw.	C. F. Troedson.
Eugene	Lane	449	20	37.9	− 2.4	55	24†	16	3†	26	3.49	− 1.78	0.69	2.0	13	7	11	13	e.	F. L. Barker.
Fairview	Coos	142	12	41.3	− 3.4	58	21	17	1	29	8.85	− 2.13	1.14	1.0	18	4	1	26	n.	William Bettys.
Falls City	Polk	355	12	37.1	− 1.5	55	23	13	5	23	12.44	+ 0.26	2.00	2.0	21	6	5	20	e.	Chas. F. Vick.
Forest Grove	Washington	220	20	34.7	− 2.9	51	23†	11	5	25	11.45	+ 3.85	2.32	0.8	25	0	8	23	s.	Pacific University.
Gardiner	Douglas	72	20	44.8[i]	+ 0.3	66[i]	30				13.18	+ 1.36	1.70	0.0	21	5	4	22	.....	Hon. J. S. Gray.
Glendale	....do	1,441	5	38.9	.....	56	30	14	5	24	8.00	.....	1.90	10.0	14	9	9	13	n.	C. Olson.
Glenora	Tillamook	575	18	32.6	− 5.2	47	30	11	5	16	22.79	+ 3.66	4.40	21.0	22	4	3	24	sw.	Mrs. Jennie Rocher.
Gold Beach	Curry	40	8					21	2	....	16.83	.....	3.20	T.	19	8	4	19	s.	C. Dewey.
Granite	Grant	4,680	4	19.4	.....	42	22	−16	5	46	1.97	.....	0.45	21.2	11	4	7	20	se.	L. M. Ford.
Grants Pass	Josephine	956	21	37.4	− 6.2	66	30	12	5	30	3.97	− 2.43	0.63	4.2	19	5	4	22	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	8	25.6	.....	57	30	− 5	3	33	0.81	.....	0.44	0.0	3	9	7	15	sw.	Oreg. Ry. & Navigation Co.
Greenleaf	Lane	250	10	37.8	− 3.9	62	13	15	3	34	15.07	+ 3.39	2.02	3.1	21	4	4	23	sw.	Wm. H. Wheeler.
Grindstone	Crook	5,000									1.91	.....	0.40	18.5	20	5	16	10	s.	Orrin C. Mills.
Headworks	Clackamas	719	4	34.6	.....	52	30	15	3	19	12.03	+ 2.31	1.91	13.8	22	5	6	20	ne.	Portland Water Works.
Heppner	Morrow	1,950	21			59	23†	− 2[c]	3	....	1.41	− 0.14	0.60	9.7	14	2	13	16	s.	Ralph Kenton.
Hermiston	Umatilla	450	3	29.6	.....	60	30	− 2	3	28	0.80	.....	0.25	1.5	9	8	7	16	.....	C. W. Kellogg.
Hood River	Hood River	243	19	37.4	− 6.5	48	30	1	4	25	1.50	− 4.69	0.70	1.5	9	9	0	22	e.	H. L. Hasbrouck.
Huntington	Baker	2,116	9	17.8	.....	35	22†	− 6	5	22	0.30	.....	0.20	3.0	2	0	0	29	.....	J. M. Day.
Jacksonville	Jackson	1 640	21	35.8	− 1.7	60	23	13	5	23	2.37	− 2.08	0.35	37.5	13	8	4	19	.....	E. Britt

TABLE 1.—*Climatological data for January, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Oregon—Cont'd.																			
Joseph	Wallowa	4,400	21	16.7	− 7.4	42	24	−13	3	25	2.04	+ 0.32	0.80	18.0	5	10	0	21	s.	F. F. McCully.
Le Grande	Union	2,784	24	25.5	− 4.5	47	23†	−11	3	31	2.18	− 0.23	0.42	20.0	14	5	10	16	se.	W. A. Worstell.
Madras	Crook	2,150	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Rea.
Marshfield	Coos	12	6	41.6	− 3.4	19	3	57	21	35	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Mrs. E. I. Mingus.
McKenzie Bridge	Lane	1,400	7	31.9	− 4.2	51	13	6	3†	30	7.73	− 2.06	1.18	0.0	21	3	1	27	sw.	Geo. Frissell.
McMinnville	Yamhill	180	22	37.9	− 1.0	53	23†	15	5	21	7.48	+ 0.29	1.59	T.	20	5	4	22	ne.	J. H. Pruett.
Mikkalo	Gilliam	1,600	4	28.1	.....	56	30	2	3†	23	1.07	.....	0.27	5.0	8	18	3	10	e.	Frank Little.
Miramonte Farm	Clackamas	195	21	37.7	− 1.0	56	23	14	5	20	7.02	+ 0.99	1.20	4.0	21	5	5	21	s.	G. M. Muecke.
Monroe	Benton	350	13	38.8	− 1.5	59	24	15	3	25	6.70	− 0.73	1.13	0.0	15	3	5	22	sw.	L. A. Peek.
Mount Angel	Marion	485	24	39.0	− 0.6	57	23	17	3†	29	5.92	− 0.95	0.92	4.5	13	10	5	16	s.	Dr. W. F. Fisher.
Mount Hood	Hood River	1,650	....	29.7	.....	53	22	0	3	36	6.44	.....	1.90	18.5	13	5	7	19	e.	S. G. Babson.
Mountain Park	...do	1,550	4	27.6	.....	51	30	5	3	20	8.95	.....	1.80	44.0	22	4	3	24	e.	M. Markley.
Musick	Douglas	5,000	....	26.1	.....	56	23	− 6	2	51	8.71	.....	1.40	70.0	19	5	7	19	sw.	Alex. Lundburg.
Newport	Linton	69	22	41.2	− 3.4	53	24	21	3	19	12.20	+ 2.44	1.92	0.0	26	3	5	23	sw.	WilliamMatthews.
Pendleton	Umatilla	1,272	20	29.4	− 4.5	58	24	1	3	33	1.83	+ 0.21	0.85	9.0	11	1	14	16	n.	H. F. Johnson.
Pilot Rock	...do	1,872	1	39.2°	.....	62°	23	− 1°	3	36	1.32	.....	0.67	11.0	10	13°	10°	5°	w.	John P. McManus.
Pompeii	Clackamas	3,580	15	27.8	− 2.5	49	23	0	3	27	10.41	− 0.05	1.66	55.0	17	3	11	17	e.	O. C. Yocum.
Portland	Multnomah	57	38	37.6	− 1.5	53	23	21	5	18	6.26	− 0.31	1.47	2.1	22	2	5	24	s.	U. S. Weather Bureau.
Prineville	Crook	3,000	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Prospect	Jackson	2,750	4	32.6	.....	55	30	4	3	39	5.19	.....	0.80	21.0	15	4	15	12	s.	E. F. Graham.
Ramsey	Wasco	1,350	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Iva B. Collins.
Range	Grant	3,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Craig Thom.
Richland	Baker	2,350	8	24.2	− 5.2	48	23	−12	5	30	0.55	.....	0.20	5.0	4	7	5	19	.....	C. G. Morgan.
Riverside	Malheur	3,000	11	.....	.....	.....	.....	−19	4†	...	1.15	− 0.15	0.30	8.5	9	18	5	8	n.	Mrs. Leah Fairman.
Roseburg	Douglas	523	33	39.2	− 1.6	63	30	16	3	27	3.78	− 1.92	0.64	2.0	18	4	11	16	s.	U. S. Weather Bureau.
Salem	Marion	120	20	38.7	− 2.0	54	22†	19	3†	14	5.63	+ 0.01	1.10	2.0	20	5	0	26	se.	M. P. Baldwin.
Siskiyou	Jackson	4,115	1	27.8	.....	45	23	8	2†	15	3.23	.....	0.36	23.0	21	2	11	18	sw.	Lewis F. Bates.
Sparta	Baker	4,150	17	20.4	− 5.2	40	23	− 7	3	25	3.32	+ 0.23	0.70	33.0	12	8	11	12	e.	Hon. J. A. Wright.
Stafford	Clackamas	400	13	38.0	− 1.0	55	23†	14	5	26	8.00	+ 1.60	1.19	65.0	21	.....	.....	.....	s.	John P. Gage.
The Dalles	Wasco	112	35	28.8	− 3.6	50	30	2	4	40	1.87	− 0.77	0.42	3.7	13	10	0	21	e.	S. L. Brooks.
The Heads	Curry	300	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Willis T. White.
Toledo	Linton	50	20	40.4	− 2.0	58	1	17	3	31	9.69	− 1.22	1.50	0.1	17	7	14	10	sw.	C. B. Crosno.
Umatilla	Umatilla	340	14	30.6	− 2.0	59	30	7	3	26	0.98	− 0.33	0.25	0.2	8	6	2	23	w.	Mrs. Helen T. Duncan.
Vale	Malheur	2,450	18	19.6	− 5.8	52	27	−23	3	43	0.93	− 0.49	0.25	6.5	8	12	5	14	ne.	H. P. Osborn.
Van	Harney	3,506	4	20.0	.....	42	22†	−25	3	43	0.89	.....	0.26	6.0	5	13	4	14	s.	Geo. Howe.
Wallace Orchard	Polk	170	1	37.6	.....	54	22†	14	14	19	6.64	.....	1.12	2.0	21	2	10	19	.....	Chas. A. Parks.
Wallowa	Wallowa	2,935	7	16.0	− 8.9	43	24	−25	3	42	1.57	+ 0.24	0.40	15.5	14	5	2	24	w.	L. J. Coverstone.
Wasco	Wasco	1,500	2	32.0	.....	55	30	5	3	18	1.54	.....	0.43	2.5	8	5	7	19	w.	A. J. Swift.
Warmspring	Crook	1,600	8	29.4	− 5.0	60	30	− 2	3	29	0.51	− 1.12	0.15	2.2	5	4	19	8	sw.	C. C. Covey.
Weston	Umatilla	1,800	20	29.8	− 2.3	55	22†	0	3	28	2.72	− 0.06	0.42	13.5	12	1	5	25	sw.	M. A. Baker.
Williams	Josephine	1,368	17	36.8	− 2.6	56	31	12	5	28	3.92	− 1.90	0.62	2.0	12	4	7	20	sw.	J. M. John.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
¶ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for January, 1910. District No. 12, Columbia Valley.*

Stations.	River basins.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																																	
Anaconda	Missoula	*	.53			T.									T.	.02				.04				T.	T.	T.			.09			.09	0.77
Bison Mountain	do	.21	.34		.10	.11	T.							T.		.15	T.	.15					.09			.10	T.		.14				1.39
Columbia Falls	Flathead						.25	.20							.10		.22		.25			.10	.48		.39				.20			.36	2.55
Como	Bitter Root	.35																	.55			.04							.10				1.04
Darby	do																																
Dayton	Flathead																																
East Anaconda‖	Missoula	.19	.08		T.	T.		T.							T.	T.			.10			T.		T.	T.	T.	T.		T.			.10	0.47
Fortine	Flathead				T.		.10	.04	T.	T.	.03				.03		.24	.04	.14	.05		.01	T.	T.	.38	T.	.01	.05	.28		.05	.25	1.70
Hamilton	Bitter Root	.12	.37																.06	.15			.03	.02	.02				.06			.10	0.93
Hat Creek	Missoula	.24	.18	.06		.02										*	.07			.01		.10					T.		.02				0.70
Kalispell	Flathead				T.		.06	.05	.01	T.					.04	.08	.03			.01		.10		.02	.19			T.	T.		.04	.15	0.78
Lost Creek	Missoula																																
McGinnis Meadows	Kootenai																																
Missoula	Missoula	T	12		.05	.03		.02							T.	.02	.07			T.		T.	T.	T.	.05	T.			.05		T.	.20	0.61
Ophir	do						T.													T.	T.		T.		.30				T.				0.30
Ovando	do	*	.15	.02		.20			.30	.05			.04						.10		.15	.05		.30	.10		.22			.20	.10	.04	2.02
Philipsburg	do	.12	1.10		T.	.05																									T.		1.27
Plains	Columbia																.10			.10		T.		T.	T.					T.	.10		0.30
Pleasant Valley	Kootenai								T.	.02	T.				T.		.08	.03	.15	.15		.03	.15	.05	.17		T.		.15		.19	.43	1.60
Polson	Flathead											.15										.12			.42							.30	0.99
St. Ignatius	do	.05			.03	.01		.06					T.	.01	T.	T.	.04	T.			T.			T.	.04				T.			.42	0.66
St. Regis	Missoula	.01													.20	.10	.10		.28				.63	.31	.23				.21		.29	.71	3.07
Saltese	do								.22	.20					.15		.35		.52	.85		.60	.35	.38	.15		.41		.36		.35	.95	5.84
Snowshoe	Kootenai	.02						.14	.14	.15	T.				.15		.23	.46	1.01	.76	T.	.42	1.11	.59	1.06	.16	.20	.10	.62		.83	1.02	9.17
Troy	do									.14	.17				.06		.15	.20	.80	.30		.21	.30	.15	.23			.18		.15	1.15	.80	4.99
Upper Lake McDonald	Flathead				.03	.05			.42	.11	T.				.03		.05	T.	.37			.21	.68	.20	.36		T.	T.	.40	T.	T.	.35	3.26
Wyoming.																																	
Afton	Snake																.60	.20					T.			.10							0.90
Alta	do	.35	.09					.16		.15		.10	.38		.05	.13	.13		.02	.07			T.			.10	.04	.07					1.84
Bedford	do	.09							.10			.14	.30			.14	.31									.06	.03						1.17
Snake River	do	1.60	.70							.50						.70	.30	.10		.30			.30	.10		.20	.30		.30				5.40
Nevada.																																	
San Jacinto	Snake	.07	.36																														0.43
Utah.																																	
Standrod	Raft	.23	.58		T.			.06		.05		T.				T.	.48						T.			.04	T.		.03				1.47
Idaho.																																	
Atlanta	Boise																																
Albion	Upper Snake	1.00	.37		T.		T.	.19	.02	T.					T.		.17	T.					T.	T.		T.			T.				1.75
Almo	do	.87	T.				.25	T.									.42									T.					.10		1.64
American Falls	do																																
Blackfoot‖	do	.58			T.		.06	.06	.04	T.		T.			.01	.01	.07		T.	.01		T.	T.	T.	.05	.05	T.	T.	.04	T.			0.98
Blackfoot Dam	do	.71	.24			.04		.07	.05	.03	.05	.07			.11		.33	T.					T.	.05		.01		T.	.05	.02			1.83
Blanche	Middle Snake																																
Bock's Ranch	Boise	.38	.10				T.	.28	.03						.01	.02	.07		.02	.46	.11			.04		.12	.27		.18				2.09
Bogus Creek	Payette																																
Boise	Boise	.55	T.	.02	T.		.08	.25	.05	.03	.04	T.	T.		T.	.08	T.	T.	.01	.04		.02	.10	.05	.02	.08	.01	T.	.07		.05	1.55
Bonners Ferry	Upper Columbia					T.	.07								.06	T.	.13	.14	.14			.49	.04	.04	.09			T.	.15		.21	.18	1.74
Boulder Mine	Boise	.25	.23					.39	.08	.20					.10	.20	.04		.26	.86	.14		.27	.13	.09	.22	.30	.36					4.12
Buhl	Upper Snake	.10																					.05								T.		0.15
Burke	Upper Columbia					T.	.09	.06	.07	.18	T.				.20	T.	.26	.22	.61	.68		.21	.24	.15	.42	.26	.26		.60		.15	1.05	5.71
Caldwell	Boise	.33	.13				T.	.25	.03	.03	T.					T.			T.	.05		T.	.17	.06			.03		.02				1.10
Camas	Lost River Region	.03							T.	.10	.12					.02	.04		T.					.60	.10			T.	.10				1.11
Cambridge	Middle Snake		.18					.20	.18	.08					.09	.10			.91	.66		.05	.30	.32	.18	.02	.30		.31				3.88
Chesterfield	Upper Snake																																
Clawson	do																																
Cœur d'Alene	Upper Columbia																																
Cottonwood Creek	Boise																																
Crawford	Payette	.20						.10								.40			.40	.50			.20	T.		.20	T.						2.00
Culdesac	Clearwater						.02		.02													.04		.08						1.00		1.16
Deary	do																																
Dent	do				.01		.05	.18	.15	.01					T.	.05		.03	.90			.50	.15	.16	.18		.04		.60			.25	3.26
Driggs	Upper Snake	.48	.25		T.	T.		.10		T.	.04	.33	.05		.02	.20	.09	T.	T.	.05	T.	T.	T.		.09	T.			T.				1.70
Edie	Lost River Region	.80									.05					.09	.15		T.	T.				.23		T.			T.	T.			1.32
Edwardsburg	Salmon																																
Emmett‖	Paycte	.05	.33					.28	.07	.15					T.				T.				.30	.08	.05		.04		.05				1.40
Forney	Salmon																																
Garden Valley	Payette	.80						.51	.31						.14	T.			.50	.56		.20	.32	.45	.33		.51		.36				4.99
Garnet	Middle Snake	.25						.12													T.	.12											0.49
Gilbert	Clearwater																																
Glenns Ferry	Middle Snake	.41						.19								.02							.14			.09			.04				0.89
Gooding	Wood-Malad	*	.37		T.		T.	.18		.08					T.	T.	T.						.02	.03	T.	T.	.01		.02				0.71
Grand Forks	Upper Columbia							.16	.24	.20						.14	.20		1.16		.48		.92		.48		.54	.05	.54		.52	.62	6.25
Grandview	Middle Snake																																
Green Timber	Upper Snake																																
Grimes Pass	Boise	1.13					.31	.19	.23		.05					.26			.85				.20		.22	.22		.22	.02		.06	3.96
Guffey	Middle Snake	.19	.05					T.									.26						T.	T.								0.50
Hailey	Wood-Malad	.60	T.						T.	.20	T.				T.	.20	.07		T.	.02			T.	.16		T.	.03		.10				1.38
Hotspring	Middle Snake	.44						T.	T.	T.						T.	T.		T.														0.44
Idaho City	Boise	.55						.88						.24		.18					.68							.15					2.68
Idaho Falls	Upper Snake	.89	.18					.12	.04							.04				.14				.03		.01			.05				1.50
Indian Valley‖	Middle Snake	.80												.30					.70				.10	.25	.12						.06	2.33
Irwin	Upper Snake																																
Kellog‖	Upper Columbia						.03		.04	.06	.11	T.			.13		.12	.10	.23	T.			.40	.13	.45	.11	.12	.06	.38		.09	.37	2.93
Kirkham	Payette	1.05	.25						.10	.50	.11					.85			.75	.40	.45						.29		.48				5.23
Kooskia	Clearwater	T.	.02	T.			.01	.30	.19					T.			T.		.01	T.		.30	T.	.07					.26			.50	1.66
Lake	Upper Snake		.30								.10					.10				T.													0.50
Lakeview	Upper Columbia							.10	.20	.10					.10		.20	.10	.10					.40						.40	.70	2.40
Landore	Middle Snake	.06	.23	T.			T.	.12	.11	.10	.05				.11	.15	.06		.43	.51		.17		.50	.65	.22	.35	T.	.16		T.	T.	3.98
Lewiston	Clearwater		.18	T.	.02			.04	T.									T.	.01			.17		.11	.16			T.	.29			.13	1.11
Little Camas	Boise	.20	.15			.17	T.	.30	T.	.11						.06	.22	T.	T.	.44		T.	.20	.06	T.	.05	.26		.16				2.21
Long Gulch	do																																
Loon Creek	Salmon	.32	.33							T.	T.				T.	.04	T.		.15	.10		.02	T.	.16	.13	.10	T.		.11				1.46
Lost River	Lost River Region																																
Lowry	Owyhee	.50	T.	T.		.28										.11	T.			.08		T.	T.			.08		T.					1.05
McCall	Payette	.40								.10						.40			1.20			.40		.20	.10		.20		.20				3.20
Mackay‖	Lost River Region	.27	.51															.53		.04					.05								1.40
Meadows	Salmon	.40	.44					.19	.05	.10	.08				.10	.03		T.	.70	.52		.25	.19	.07	.16	.12	.13		.31		T.	T.	3.84
Milner	Upper Snake	.10	.60		T.		T.		.20						T.		.30									.10	.50		T.				1.80
Moscow	Upper Columbia				.03		T.	.08	.22	T.					T.	T.		.02	.35	.11		.32	.01	.28	.28		.08	T.	.41		.11	.28	2.58
Mountainhome	Middle Snake	.25						.26								.09	.05			.11			.01	.05		T.	T.						0.82
Murtaugh‖	Upper Snake	*	.70				.23								T.	.13							T.				.01	T.		.10			1.17
Nez Perce‖	Clearwater	.61																					.21					.13				.21	1.16
Oakley	Upper Snake	.35	.85					T.									.30																1.50
O'Hara Bar	Clearwater																																

TABLE 2.—*Daily precipitation for January, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Idaho—Cont'd.																																	
Orofino	Clearwater			.03	.06		.12	.28	.10									.06	.40			.40	.10	.11	.13	.07			.53			.17	2.56
Payette	Payette	.22	T.				T.	.27	.03	.08					T.	.01			.01	.16		T.	.16	.11			.02		.09		T.		1.16
Pebble	Upper Snake	.80	.04				T.	.46	.15	T.	T.	.20			T.	T.	.90	T.	T.								.09		T.				2.64
Pierson	Salmon	.90	.57													.46																	1.97
Pine	Boise	.25	.25				*	*	.75	.75	.06				*	*	.44		.46			T.		.90		.20	.70		.30				5.06
Placerville	...do																																
Pleasant Valley	...do	*	.45					*	*	*	.26					T.	.10		*	.02		*	*	.16	T.	*	T.		.02				1.01
Pocatello	Upper Snake	.64	.38	T.	.62	T.	T.	.06	.04	T.		T.			.03	.05	.18			T.			T.			.06	T.		T.				1.46
Pocatello Nursery	...do																																
Poplar	...do																																
Porthill	Upper Columbia								.01	.01	.01				.04	.02	.04	.15	.12			.11		.09	.15	.06	.01	.04		.40		.09	1.35
Powers Ranch	Boise	.46			.09		T.	.40		.20	.03				T.	.20			.20	.70		T.	.25			.60	.25		.20				3.58
Pyle Creek	Payette	.65					T.	.28	.05	T.	.10				.07	.15			.62	.09		.21	.25	.12	.12		.25	.39					3.95
Rattlesnake Creek	Boise	.39	.07				.04	.30	.05	.13	T.				.03	.16	.02	T.	.14	.44			.12	.09	T.	.14	.30		.22				2.64
Ruby Creek	...do	.38	.12				T.	.40	.10	.16	.07				.06	.10			.26	.91		.03	.26	.12	.05	.40	.38		.28				4.08
Rupert	Upper Snake	.42	.25		.01			.12	T.						T.		.18		T.				.02			.01	.03		.03				1.07
Salmon	Salmon	.21	.17			T.	T.	T.		.03						T.	.07		.14	T.		T.	.09		.02		T.	.07					0.80
Salmon River Dam	Middle Snake	.45	.27	T.	.03			.17									21								T.		.01		.06				1.20
Sheep Hill	Boise		.31							.76		.10					17			1.27				19			.66		.42				3.88
Shoshone	Wood-Malad	.32	.20		T.		T.	.12	T.	T.					T.	.04	.02	T.		.11			.02	.02		.01	.06		.05				0.97
Silver City	Owyhee	.03				T.	.02	.36	.02	.01	T.				T.	.09	.03		T.	.31		.10	.04	T.	.12	.07	.37	.11					1.68
Smith Prairie	Boise		.70					.43		.15					T.		.19			.42				.15	.25			.30	.28				2.87
Soldier	Wood-Malad																																
Sugar[1]	Upper Snake	.90				.18		.16		.19	.15		.10		.18	T.	T.		.04				T.	T.	T.	1.00	T.		T.				2.00
Sunnyside[1]	Middle Snake	.10	.05					.25	.05									T.								T.	T.		T.				0.45
Tilden	Upper Snake	.45	.50					.12							T.		.10			T.			T.				.09		.04				1.30
Tripod Mountain	Payette	.32	.08		T.		T.	.35	.05	.12	T.				.08	.02			.65	.30		.14	.15	.38	T.	.05		.44					3.11
Twin Falls	Twin Falls	.26	.40		.03		.01	.16								.12	.08			.02			.02			.10	.09		.06				1.35
Vernon	Upper Snake	.30	.26					.07	.16	.33	.25		.08		T.	.18	T.		T.	.05			.02	.03		.16	.25		.01	T.			2.15
Wallace	Upper Columbia				.06	.02	T.	.02	.09	.12	T.				.15	T.	.15	.15	.82	.73		.42	.29	.14	.56	.32	.30	.02	.26		.38	1.12	6.12
Wendell	Upper Snake	.29	.26					.18		T.						T.				T.			T.			T.	.07		.02			T.	0.82
Washington.																																	
Aberdeen	Coast		.02				.37	.63	.08	.19	.18		.09	.07		.37		2.11	1.92	.35		1.92	.64	.60	.73	.87	.31	.69		.98	1.08	.19	14.39
Anacortes	Puget Sound								.10	.21				.01	.11	.06		1.12	.24	.01			.06	.10	.19	.50	.02	.06	.13		.01	.85	.23	4.06
Baker	...do							.13	.06	.33	.25					.44	3.46	1.48	1.14	.88		1.03	.41	.41	.58	.37		.91			1.52		13.40
Bellingham	...do							T.	.10	.10	T.		.12					.35		.40		T.		.60	.73	.15		.10		.10	.75	.15	3.65
Blaine	...do						T.	.06	.20	.23	.01	T.	.03	.17	.16		.12	.22	.26	.07		.38	1.08	.42	.81	.34	.35	.17	.02	.08	1.03	.02	6.23
Blewett	Wenatchee						.10	.10	.20	.03	.03					.40		.40	.60			.60	.10	.45			.40	.03		.03	.85		4.32
Bremerton	Puget Sound							.56				.24	.01	.15	.06	.04		.17	2.09	.66	.11	.39	.36		1.18	.42	.53	.35	.03			1.47	8.22
Brewster	Columbia																																
Bumping Lake	Yakima																																
Cashmere	Wenatchee																																
Cedar River	Puget Sound			T.				.32	.38		T.		T.		.26				1.95	.09		.62	.32	.64	.55	.11	.03	.44	.18		.99	.58	7.46
Centralia	Coast						.02	.53	.08	T.	.12		.04		.12			.27	1.55	.07		.75	.09	.78	.45	.52	.61	.94	.09	.07	.98	.47	8.55
Cheney	Spokane				.60																					20		.20				1.00
Clealum	Yakima								.08	.67						.05			.80			.07		.36	.25	.07		.06			.23		2.04
Clearbrook	Puget Sound								.55	.12			.22		.07		.13	.30	.27	.13		.32	1.06	1.21	.85	.14	.10	.65		.20	1.00		7.32
Clearwater	Coast					.10		.13	.80	.42	.18	.20	.15	.24		.25	.25	3.30	1.35	.04	.15	1.40	1.20	2.10	1.40	.55	.60	2.60		1.42	3.40	.20	22.23
Colfax	Palouse																																
Colville	Columbia						T.		.15	.13					.25	.11	.12	.08	.05			.04		.42	.18			.02					1.55
Conconully	Okanogan							T.			T.	.20	.30		.15	.20	T.			.30	.05			.43	.57		.20			.02			2.42
Cowiche	Yakima																																
Crescent	Spokane							.09	.11	.05				.11	.14		.13		.11			.08	.17	.14	.10	.05	.10	.15					1.53
Davenport	Columbia						.04	.06		.13					.04	.07			.03			.01	.12	.01	.14				.03	.08		.03	0.79
Dayton	...do						.03	.15	.16	.04					.06	T.			.41	.32		.12	.03	.33	.21			T.	.67		T.	.61	3.04
Detroit	Puget Sound						10	.58		.27	.11	.05	.20		.05		.02	.73	3.00	.16	.04	1.07	.22	.57	.88	.55	.54	.50	.02	.15	1.75	.02	11.58
Dixie	Columbia		.32				.10	.25	.38	T.					.28	T.		.10	1.16	.48		.42	.13	.18	.90	T.	.14	T.	.96		T.	.64	6.44
Duckabush	Puget Sound																																
East Sound	...do																																
Ellensburg	Yakima							.05	T.	.06		T.			T.	.28	T.							.57	.17		T.	T.					1.13
Ephrata	Columbia							.05		.10		.10																					0.25
Forks	Fort Simcoe						.42	.80	1.02	.30	.43	.31	.23		.79	.47	.02	2.70	1.65	.70	.25	.78	1.32	1.40	1.44	.84	1.17	1.37	.07	.90	.86	.34	20.25
Fort Simcoe	Yakima						.11									.20								.50	.30		.10				.40		1.61
Goat Lake	Puget Sound	.30						.20	.28						.06		.19	.09	1.75	.73	.05		2.47	.93	1.58	.60	.68	.07	.63		1.46	2.58	14.65
Gold Creek	Yakima					.02	.02								.35	.40							*	.40		*	.19				*	.20	1.58
Goldendale	Columbia					.01	.01	.01										.15	.06			.55	.03	.30	.35	.10	.10	.02					1.69
Granite Falls	Puget Sound							.18	.12		.09	.02	.01		.27	T.	.04	.22	.32	.24	.01	.64	.06	.27	.62	.27	.20	.20	.18	.02	1.34	.75	6.07
Hatton	Columbia						*	.17	T.						.06	*	.07		.03			.10	*	.36	.06	.06							0.85
Huntsville	...do							.15	.15	.15					.20				1.10			.20		.34	.41				.40			.76	3.86
Irene Mountain	...do								T.	.08		.14			.14		.08								.30								0.74
Kennewick	...do							.35				.35										.32							.03		.18		1.23
Kettle Falls	...do						.01	.06	.11	.14	.11			.10		.08						.20		.13		.02		.10					1.06
Kiona	Yakima							.20															.12		.33	.10		.10				.06	0.91
Kosmos	Columbia						.09	.33						.40			.11	1.14	.03	.15	1.02	.36	.15	.39	.30	.11	.21	.61	.38	.07	.63	.50	6.98
La Center	...do						.33	.36	T.	.26	.20			.25		.30	.12	.05		T.		1.75	.25	.65	.60	.07	.13	.05		.02	1.15	.25	6.79
La Crosse	Palouse						.01	.17	.18	.02					T.	.01	T.	T.	.20	.03		.22		.33	.42		.07	T.	.34	T.	.07	.33	2.40
Lake Clealum	Yakima				T.	.40	.50	.40						.15	T.	T.	.11	1.91	.11		T.	.57	.32	.34	.21			.62		.14	.82	.50	7.10
Lake Kachess	...do							.30	.60	.20					.10			1.01	1.20	.20		.30	.88	.40	.25	.07	.20	.80	.30		1.17	1.20	7.27
Lake Keechelus	...do																																
Lakeside	Columbia							T.	.04	T.	.05	.11			.02	.09	.06	.02	.08			T.		.28	.29			.03		T.	.07		1.14
Laurel	...do						.30	.56	.11	.10	.03	.05			.03	.15	.12	.30		.10		.40	.50	1.20	.63	.29	.34	.23			.25	.09	5.78
Laurier	Kettle																																
Lester	Puget Sound							.15	.30	.05					.20			.40	1.85			.90	.40	.45	.40		.10	.08	.75	.20	.70	.80	7.73
Lone Tree	Coast																																
Longmiresprings	Puget Sound																																
Lost Creek	Columbia										.13	.25			.15		.12						.22	.10	.50	.03	.10					1.60
Lyle	...do																																
McCumbers Ranch	...do						.40	.40				.30				.20		*	.80							.30	.30						2.70
Mottinger	...do						*	.12	.03					.05							.05		.23	.03			.(7				.44	1.02
Mount Pleasant	...do																.30	.04	1.16	.10		.80	.38	1.25	.50	.20	.10	.70	.82		.15	.90	7.40
Moxee	Yakima						.04	.05		.02		.10			.05							.02		.40	.04		.15						0.87
Newport	Pend d'Oreille																																
North Head	Coast			T.			1.44	.27	.27	.08	.37	.11	.07	.33	.03	.45	.01	.91	.64	.21	.05	1.21	.38	1.29	.27	.28	.17	.39		.17	1.38	.16	10.94
Northport	Columbia					T.	T.	.05	.05	.11	.06				.20		.12	T.					.05	.14	.04	.04		.12	T.		T.		0.98
North Yakima	Yakima						.02	T.	T.	.05	.03	.06				.04		T.				T.		.37	.06	T.	.10			T.	T.	T.	0.73
Nutland	Columbia							.11	.09						.06				.35	.04		.24	.29		.18		.06	.01					1.43
Odessa	...do						.10			.25					T.							T.		.50	.10		.10	T.					1.05
Olga	Puget Sound								.48								.15	.96	.65	.14	.15	.07	.22	.18	.41	.15	.09	.21		.09	1.38	.14	5.47
Olympia	...do						.07	.74	.19	.18	.02	.07		.05	.10	.05	.07	.04	2.95	.35	.07	.48	.44	.32	.75	.71	.67	.48	.12	.02	1.10	.15	10.19
Omak	Okanogan							T.	T.	.15	.25	.15			.15		.10						.07	.90		.03							1.80
Oroville	...do									.02	.02	.25			.10									.15	.55								1.09
Peola	Snake	T.	.15		.01		.03	.02	.32	T.					.02	.01		.06	.19	.27		.15	.09	.02	.10	.01	T.	.01	.28		.06	.32	2.12
Pomeroy	...do						.10	.20	.10	.10												.10			.05				.91			.41	1.97
Port Crescent	Coast						.01	.08	.19		T.		.07			.12	.02	1.60	.28	.21	.03	.18	.10	.15	.09	.49	.19	.21	.01	.66	1.68	.20	6.57

TABLE 2.—*Daily precipitation for January, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Washington—Cont'd.																																	
Port Townsend	Puget Sound				T.			T.		.25		T.	.22	.03	.12	.01	.02	.07	.10			.15	.02	.04	.18	.08	.24	T.	.05		.42	.05	2.05
Pullman	Palouse																																
Quinault	Coast						.20	.65	.33	.32	.05	.90	.17	.42	.35	.18	.43	1.70	3.00	.34	.10	1.73	.71	1.53	1.05	1.25	.61	1.20	.03	.68	3.30	.34	21.57
Republic	Kettle									.10		.15			.15	.05	.07	T.	T.			.05		.38	.13			.02			T.		1.10
Rex Creek	Columbia																																
Ritzville	...do						.16	.10	.08	.09					.08	.08						.16	.21	.18		.02		.02				.04	1.22
Rock Lake	Palouse							.19		.23					.05		.07		.12				.22	.12	.16				.18		.01		1.35
Rosalia	...do				.04			.03	.03	.18	.05						.05	.03	.36			.23	.09	.11	.49		.09		.34		.13	.39	2.64
Russells Ranch	Yakima																																
Scenic Hot Springs	King																																
Seattle	Puget Sound			T.			.12	.12	.10	.10	.02		.06	.09	T.	T.	T.	.79	.16	.05	.01	.61	.01	.99	.14	.31	.04	.22	.15	.15	.79	.05	5.08
Sedro-Woolley	...do						.03		.12	.17			.04		.40	.03	.17	.53	.89	.04		.12	.22	.09	.39		.04	.10	.06	.04	.48	.44	4.40
Sixprong	Columbia							.08	.04	.01					.02				.16			.18		.24	.06	.10		T.				.02	0.91
Skagit Power Dam	Puget Sound																																
Snohomish	...do	T.					.03	.07	.03	.10	T.		.03	T.			.15	.28	T.			.26	T.	.33	.53	.25	.20	.12	.27	T.	1.45	.40	4.50
Snoqualmie Falls	...do						.01	.03	.12	.04		.04			T.	.15	.03	.19	1.74	.11	T.	.60	.19	.33	.72	.16	.28	.37	.17	.05	1.47	.35	7.15
Snyders Ranch	Columbia							T.			T.	T.	.09		.09	.13		.19	.54			.30	T.	.42	.25	T.		.17		T.	.48		2.66
South Bend	Coast																																
Spokane	Spokane				T.		.08	.04	.12	.05	T.				T.	.01	T.	.01	.06			.26	T.	.24	.09	.07	.02	.07	.06	T.	.01	.09	1.28
State University	Puget Sound					.10	.24		.15		.04	.01	.03	.14	.01		.01	1.03	.02		.31	.29	.35	.87	.18	.30	.26	.03		1.07	.19	.30	5.95
Stokes Ranch	Columbia												.22	.20	T.	T.			.31	.49		.28		.29				.35			.36		2.50
Sullivan Lake	Pend d'Oreille							.07	.16	.35	.02				.16		.21	.13				.08		.33	.26	.30	.01	.17	.07		.04	.07	2.43
Sumner	Puget Sound						.03	.40	.12	.20					.18			1.16	1.83	.04		.34	.10	.58	.39	.09	.;6	.25	.03	.09	.78	.21	6.28
Sunnyside	Yakima						.06	.02		T.	.02	T.				.15	T.						.06		.37	.11	T.						0.79
Tacoma	Puget Sound						.30	.45	.12	.08	.02		.02	.09	.04	T.	.02	1.16	1.09	.09		.90	.02	1.11	.14	.35	.08	.53		.19	.84	.02	7.66
Tatoosh Island	Coast			T.			.18	.59	.16	.26	.12	T.	.42	.20	.04	.04	T.	1.93	.20	.36	.23	.36	.75	1.52	.45	.17	.26	.43	.01	1.40	.94	.03	11.05
Tieton	Yakima						.04	.08	.06	.08						.53			.90			.12	.05	.44	.39		.13	.06			.17	.14	3.19
Touchet	Columbia		.01					.20	.10						T.	T.		T.	.02			.13	T.	.12	.03			.13	.03		T.	.63	1.40
Touchet Ridge	...do	.21						.50									*	*	1.05			*	1.00		.72			*	.98			1.10	5.56
Trinidad	...do									.10		.10				.20							.50	.67	.15		.10						1.82
Twisp	...do																																
Tyee	...do							.05	.12		*	.25		.02		.20		*	1.05				*	1.32			.08	.35			.44		3.88
Vancouver	...do			.02			.26	.30	.06	.08	.10				.25	.03	.24	.10	1.47	.05		.57	.16	.79	.12	.14	.13	.17	.15	.10	.10	1.08	6.47
Vashon Island	Puget Sound						.11	.55	.02	.23	.07	.02	.05	T.	.12	T.		.41	1.52	.18	.06	.70	.66	.72	.77	.24	.22	.40		.05	.98	.02	7.50
Wahluke	Columbia	.06					.01	.65								.02									.62		.06					0.82
Wallace	Okanogan									.08		.22	.06		.20		.10	.14				.02		.44	.66		.27	.06		.14		2.39
Walla Walla	Columbia	.02	.06				.10	.13	.02				T.		.01	T.		.03	.36			.11		.22	.23	T.		.13	.20		T.	.80	2.42
Waterville	...do						T.	.03	T.	.05	.15	.10				.25		T.	T.			T.		.52	.07	T.		T.		T.			1.17
Wenatchee (near)	...do						T.	T.		.08	.02	.03				.38		.10	.06			.07		.35	.22		.03	.01	T.		.05		1.40
West Branch	Spokane																																
Wilbur	Columbia						T.	*	*	.50					.10	.20								*	.75	.10							1.65
Yale	...do						.40	1.20	.60	.20	.15				.60	.10	.25	1.40	2.85	.20		1.00	.80	1.20	1.30	.30	.60	1.25	.60		1.10	.65	15.75
Zindel	Snake																		1.82		.12	.23				15							2.32
Oregon.																																	
Albany	Willamette							.54	.42	.02	.02	.14			.24		.01	.04	.28	.50		.26	.28	.80	.70	.04	.50	.40	.44		.01	.90	6.54
Ashland	Rogue	.03						.20						.30	.04					.22		.01		.01	.08	.06	T.	.05	.16		.09		1.27
Astoria	Columbia																																
Bagleys Ranch	Snake	.02						.03	.02							.01			.01	.02			.06	.03	.05		.08				.02		0.35
Baker City	...do																																
Bay City	Coast			.02			.52	1.03	.12	.39	.10	.05	.01	.07	.43	.22	.54	1.01	2.25	.32	.02	.87	.76	2.20	.82	.45	.24	.60	.11	.03	.74	1.32	15.24
Bear Creek	Deschutes	.04			.02	.09	.13								.17							.02	.07		.09		.10				.05	0.78
Bear Valley	John Day		.10		T.		.25		.10					.15						.20					.40		.25		.15				1.60
Beaver Creek	Deschutes																																
Beach Creek	John Day	.11	.20		.04			.25											.30	.25	T.			.13	.15		.25				.32	2.00
Bellfountain	Willamette			T.	T.		.19	.75	.04	.03	.30	T.		.12	.10	.18	.39	.08	.64	.10		.50	.35	.85	.18	.37	.63	.32	.13	.01	T.	.70	6.76
Bend	Deschutes																																
Big Basin	John Day	.20					T.		.10													.30	.20	.10	T.							.35	1.25
Birch Creek	...do	.05					.02	T.	T.						.05	T.	T.			T.		T.	.05	.03	.02	T.	T.	T.	T.			.43	0.65
Black Butte	Willamette						.20	.55											.95				.30	.25	.60	.55	.30	.35			.15	.25	4.45
Blalock	Columbia							.05							.20				.36			.20	T.	.22	.21	T.						1.24
Blue M't'n Sawmill	Umatilla		.38				.06	.48	.22	.02	T.				.16	.03		.07	1.16	.42		.29	.08	.21	.40		.09	.03	.58			.60	5.28
Buckhorn Farm	Coast						.27			.02		.02		.48	.63	.71			.94	.22	.03	1.68		.80	.90	1.55	.45	.11	.25			.98	10.02
Buena Vista	Snake		T.					.80								.30			.50		T.					T.			.20			.20	2.00
Butte Falls	Rogue		.01				.01	.40	.09			.03			.41	.02		.02	.24	.39	.01	.06	.56	.09	.19	.12	.32	.32	.46			.70	4.45
Cableville	Snake																																
California Gulch	Umatilla			.60																.45				.08	.10				.29				1.52
Canyon City	John Day	.10	T.		.02		.03		T.							T.			.15	.08		.01	.06	.07	.15	.02		T.	.05			.27	1.01
Cascade Locks	Columbia						.52	1.56	.26		T.				.37			.39	2.08	.04	.03	1.30	1.97	.22	.97	.16	.20	1.08	.80	.03	.35	1.09	13.42
Cascadia	Willamette							.59	15		.03				.42	.03		.15	.35	.33		.12	.34	.89	.78	.12	.21	1.11	.96	.02	.12	.62	7.34
Casedero	...do						.08	.43	.18	.14	.14	.03			.30		.08	.18	1.32	.05		.51	.45	.85	1.06		.17	.51	.88		.20	1.56	9.12
Columbia Mine	Snake	.05	.10				.32	.90	.35						.10	.45		.05	.95	.30		.25	.42	.13	.48	.10	.45	.15	.10			.20	5.95
Condon	John Day	.04	.13				.01	.01		T.					.05					.05		.04	.03	.10	.03	.01				T.		.11	0.61
Connor Creek	Snake	.10					T.	.20	.10							T.			.50			T.	.01	.20	.10	.02	.10	T.	.10				1.43
Coquille River L. H.	Coast						.44	.36	.28	.09	.07	.06		1.26	.60	.26	.56		.64			.34	.79	1.83	.58	.70		.35				.50	9.71
Cornucopia	Snake	.03	.13	T.			.09	.22	.29	.21	.40				T.	.12		.02	.92	.67		.42	.21	.65	.53	.12	.34	.02	.39			.11	6.09
Corvallis	Willamette																																
Cracker Creek	Snake	T.	T.				.30	.90	.30	T.	T.				.10	.40		T.	.90	.30		.20			.40	.20	.40	.20	.20			.20	5.30
Crescent	Deschutes																																
Dayville	John Day	T.	T.		T.		T.	T.							T.				.06	T.	.03		T.	.10	T.	T.	T.				.10	0.29
Doraville	Columbia			.04			.06	.73	.20	.03	.12	.01			.42	.05	.06		1.70	.27		.35	.07	.80	.43	.95	.56	.26	.10	.04	.32	.31	7.88
Drain	Umpqua						12	1.65	.05		.04	.05		10	.11	.06	.03	.03	.34	.18		.11	.22	.26	.47	.57	.52	.27	.42			.71	6.37
Dufur	Deschutes	T.	.02				.07	.10	T.	.07					T.	.04		T.	.38	T.		.21	.05	.29	.03	.14	T.	T.	.01	T.	T.		1.41
Duncan	Umatilla	.20	.50	.50	.50	.50	.55										.60					.60	.70	.50	.40						.40	.85	6.50
Echo	...do		.04					.08	T.										.03			.11		.31		.04		.04			T.	.53	1.18
Elkhorn Ranch	Coast																																
Ella	Columbia		.08				.05	.08	.06									.02	.08				.13	.22	.07				.05			0.84
Embody	Deschutes									.01						.01	1.08										.08					.12	1.30
Eugene	Willamette							.40	.15			.05			.22	T.				.48		.09	.08	.42	.69	.31		.20	.36			.04	3.49
Fairview	Coast						22	1.03				T.		08	1.08	.50	.55	T.	.98	.20	.06	.38	.54	.68	.45	1.14	.20	.14	.12			.50	8.85
Fall City	Willamette						32	1.42	.18	.03	.32	.06		.08	.28		.90	.42	2.00			1.45	.49	1.45	.21	.67	.68	.50	.21		.09	.68	12.44
Fir Glen	Coast		.01				03	1.24	.05	T.	.04	.01		.32	.24	.30	.17	.11	.46	.26		.33	.30	.32	.33	.65	.30	.45	.23			.64	6.79
Florence	...do	.05					.25	.39	.16	.17	.29	.03		.32	.31	.58	.77	.18	.96	.04		1.26	1.16	2.68	.76	.77	.15	.14	.42		.05	1.03	12.82
Forest Grove	Willamette			.20	.30			.78	.51	.20	.25	.27		.20	.04	.23	.44	2.32	.22	.50	.70	.75	.45	.40	.62	.75	.32		.40	.31	.22	.07	11.45
Fort Rock	Interior	.05					.06	.10							.30				.10				.06		.03	.05					.30	1.05
Galice	Rogue						.07	.49				.14	.06		.49	.78	.11			.25	.25		.98	.55	.56	.62	.15	.28	.63	.26			.87	7.45
Gardiner	Umpqua							.14	.98		.29	.06		.30	.46	.70	1.00	.26	.96	.15	1.08	.76	1.70	.20	.95	.96	.22	.30	.74			.97	13.18
Glendale	...do													.80		.30	.50	.30	.10		.40	.60	1.10	1.90	.80	.40	.40	.20				.20	8.00
Glenora	Coast						.75	1.80	.30	.15	.21	.04			.56	.10	.10	.50	4.40	.37		2.20	1.30	2.30	.90	1.40	1.30	1.45		.30	1.62	.74	22.79
Gold Beach	Rogue						T.	.90	.06	.15	.58	.18	1.44	.70		1.23	.35		.73	.79		1.12	.83	3.20	1.80	1.04	.14	.27				1.32	16.83
Granite	John Day	.10	.36				T.	.35	T.										.45	.08		.10	.10	.15	.10	.12	T.				.06	1.97
Grants Pass	Rogue						.04	.21			.01	.02		.21	.05	.25			.09	.17		.63	.25	.18	.20	.45	.15	.13	.24		.01	.40	3.97
Grass Valley	John Day																					.44	.21	.16									0.81
Greenhorn	Snake	.20	.20		T.		.07	.49	.17	.01	.01	T.				.17	T.	T.	.90	.25		.50	.16	.49	.47	.04	.26	.09	.32			.16	4.96
Greenleaf	Coast						.26	1.30	.24	.01	.21			.25	.34	.55	1.30	.32	2.02	.39		.54	1.18	1.27	.85	1.12	.70	.80	.49		T.	.93	15.07

TABLE 2.—*Daily precipitation for January, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Cont'd.																																	
Grindstone	Deschutes	.10	.02		.04		.03	.05	.01					.05	.20	.06			.20	.02	.03	.07	.15	.20	.11		.06	.05	.06			.40	1.91
Gumboot	Snake	.06	.12	T.	.05			T.	.04	.06	.06				.10	.15			.47	.32				.29	.30	.39	.30		.14			.05	2.90
Gurdane	Columbia	.60					.15	T.											.07	.10				T.	.50							.90	2.32
Happy Home	Umpqua	.24					.38	.74	.90	.38	.28	.64	.08	.42	1.63	1.09	.34	.29	.91	.14		1.12	.52	.74		1.62	.22	.40	.47			1.57	15.12
Hay Creek	Deschutes	.13	.07	.01			T.	.02							.10	T.			.03	.17		.01	.09	.05	.15	.03		T.	.09			.50	1.45
Hazeldell	Willamette			T.		T.	.42	.21				T.		.22	T.			T.	.70		.23		.42	.23	T.	.30	.20	.56			T.	T.	3.49
Head Works	do						.22	.85	.34	.21	.08	.12			.48	T.	.10	.10	.90	.20		.90	1.60	1.10	1.24	.11	.10	.85	.99	.03	.20	1.91	12.03
Heppner	Columbia	.01	.12				.02	.02	.01						.08	T.			T.	.03		.04	.04	.06	.06	T.		T.	.22	.01		.60	1.41
Hermiston	Umatilla								.02						.04			.04				.15	T.	.20	.03	T.	.05	T.	.02		T.	.25	0.80
Hilgard	Grande Ronde	.15	.02					.50											.45	T.		.02	.03		.02			T.	.01			.01	1.21
Hood River	Columbia													.15						.10		.70		.05			.10	.05	.05		.20	.10	1.50
Hoover	Willamette			.10	.20		.12	.06	.13						.25				2.00			3.00	.25	1.50		.38	.50	1.40				9.89
Howardville Station	Grande Ronde		.07		T.		.10	.29	.07						.07	.15		.06	.94	.30		.15	.15	.08	.30			.02	.20			.27	3.52
Huntington	Snake							.20										.10														0.30
Ibex Mine	John Day	T.	.06		.05		.07	.45	.18	T.					.09	.22		.02	.65	.28		.27	.11	.23	.45	.05	.30	.08	.25			.14	3.95
Ironside	Snake							.30								.33			.33					.30	.10	.32							1.68
Jacksonville	Rogue							.28						.22	.68	.10			.12		.22	.17			.13	.15	.22	.07	.26			.35	2.37
Joseph	Grande Ronde	.40	.80	.20																					.24	.40							2.04
Kamela	do	.50	.25				.20	.25	.25							.20			.20	.30		.35	.60	.30	.20	.30		.10	.30			.80	5.10
La Grande	do	.30	.09				.05	.35	.08								.04		T.	.24	.10		.02	.42	.15			.04	.15			.15	2.18
Lilyglen	Rogue	.04			T.		T.	.35	T.					.38	.30	.27			.08	.22		.08	.16	.12	.12	.21		.11	.19	T.		.62	3.25
Long Creek	John Day																																
Madras	Deschutes																																
Maury	do	.01					.04												T.						.05	.05	.05	.15				.26	0.61
McKinzie Bridge	Willamette			.05				1.07	.37		.04	.03			.40	.05	.13	.13	1.18	.37		.54	.25	.18	.37	.11	.26	1.11	.78		.02	.29	7.73
McMinnville	do	T.					.26	.78	.01		.14	T.		.20	.13	T.	.04	.19	1.59	.01		.71	.10	1.15	.20	.37	.38	.34	.03	T.	.05	.80	7.48
Meacham	Umatilla	1.21	.19				.13	.69	.13						.20	.10	.20	.10	.42	.32			T.		.32							.32	4.50
Metolius	Deschutes																																
Mikkalo	John Day		.15						.15						.10				.21			.13		.27	.04			.02				1.07
Miller Prairie	Columbia	.30	.15				.05	.08	.03						.02				1.50	1.00			T.	.15	.03	2.00		.06	.03			2.05	7.45
Miramonte Farm	Willamette						.06	.60		.13	.12	.03		.01	.23		.06	.06	.98	.03		.71	.24	.76	1.14	.07	.10	.20	.27		.02	1.20	7.02
Monroe	do					.08		.83					.10	.13					1.13	.09			.95	.70	.26	.62	.50	.11	.16	.02	T.	1.02	6.70
Mountainhome	Columbia						.14	.52	.05	.21					.30			.38	1.85	.20		.56	.48	.71	.38	1.51	.60	.51		.02	.41	.71	9.54
Mount Angel	Willamette							.68	.13			.22		T.		T.			.50	.52		.91	.91	.92	.03	.25	.24	.56	.05		T.	T.	5.92
Mount Hood	Columbia						1.90	.66	.18		T.				T.	.09			1.58			.52	.26	.32	.21	.03		.45		.10	.14		6.44
Mountain Park	do						.38	1.20	.35	.14	.10	.04			.09	.09	.08	.12	1.50	.05		1.10	.35	.82	.44	.27	.26	.60	.28	T.	.30	.39	8.95
Mountain Ranch	Rogue						.10	.47				T.		.40	.84	.55			.37	.22		.72	.30	.23	.70	.54	.21	.07	.45			.99	7.26
Musick	Umpqua						.20	1.40	.10		.22			.26	.42	T.	.13	.16	.60	.60		.61	.55	.36	.60	.82	.68	.21	.14			.64	8.71
Newport	Coast	.08					.57	.40	.11	.09	.10	.05		.18	.22	.40	1.37	.41	1.05	.02	.05	1.06	.72	1.92	.80	.55	.32	.44	.25	.02	.60	.42	12.20
Nigger Flat	Malheur																																
Ochoco	Deschutes	T.		.12			T.	.38	.06						.35						T.	.05	.15	.12	.08	T.					T.	1.21
Ochoco Creek	do		.05	T.	.07		T.	.15	.05						.12							.24	.10	.15	T.	T.	T.		.13			.07	1.13
Owyhee	Owyhee	.70						.30					T.										28	.09				.08				1.45
Pendleton	Umatilla		.30				.08	.08	T.						T.				T.	.07		.12	.05	.09	.09			.02	.08			.83	1.83
Persist	Rogue	T.					.08	.27			.03			.28		.10	.11		.27	.29		.21	.19	.17	.37	.45	.05	.44	.34			.84	4.49
Pilot Rock	Umatilla		.07				.14	.20	.01							T.			.01	.03		.03	.03	.06	.07							.67	1.32
Pompeii	Willamette			T.			.41	.85	.50	T.	T.	T.			.35	T.		40	1.66	.44		.79	.36	.83	.51	.25	.58	.77	.66	T.	.40	.65	10.41
Portland	do			T.			.13	.34	.03	.08	.09	T.		.22	T.	.01	.24	.34	1.16	.02		.50	.69	.56	.03	.21	.06	.36	.05	.02	.67	.45	6.26
Post	Deschutes	.05	.05					.01							.08				.03		.02	.01	.05	.07		.05		.01				.11	0.54
Power House	Walla Walla			.10			.10	T.	T.						.02	T.			.11	.12	.09		T.	.10	T.	T.		T.	.42			.96	2.08
Prineville	Deschutes																																
Prospect	Rogue				T.			.45			T.	T.		T.	.30	T.	.04	.10	.55	.35		.10	.30	.10	.10	.40	.40	.60	.60			.80	5.19
Rager Creek	Deschutes	.12					.07	.30	.05										T.			.15		.30	T.	.03							1.02
Ramsey	Columbia																																
Range	John Day																																
Ray Creek	Columbia		.20																				.08					.15			.11	0.54
Reston	Umpqua	T.					.07	1.22	.10		.04			.38	.15	.25	.08	.06	.86	.05		.33	.28	.22	.41	.46	.30	.35	.19			.56	6.46
Richland	Snake						.20	.15							T.				T.		.10					T.	T.	.10			T.	0.55
Riverdale Ranch	Deschutes																																
Riverside	Malheur	.20	.10					.30	.10	.05			.10			T.		.15							.05	.10							1.15
Rock Creek	Willamette						.88	1.37	T.	T.	.35			.22	.25	.29	.71	.22	2.41			1.01	.79	1.03	.59	.93	.53	.51			.38	.87	12.32
Roseburg	Umpqua						.12	.46	.01	T.	.01			.13	.02	.08	T.		.52		.03	.21	.14	.33	.12	.55	.01	.19	.20			.64	3.78
Rosland	Deschutes	.35	T.				.23	.38			T.				T.	.37			.05			.24	.12	.11	.23	.17	.21	T.				.41	2.87
Salem	Willamette						.05	.44	.05	.01	.09	.01		T.	.18	T.	.10	.02	.40	.10		.86	.18	.90	.30	.08	.51	.04	.21	T.	T.	1.10	5.63
Seneca	Interior	.02						.12		T.						.02			.05	.04		T.	.11	.23	.10	.11						.05	0.85
Siskiyou	Rogue	.06	.01		.02		.02	.36	.02	T.	.03	.10		.12	.32	.17			.06	.25		.21	.21	.11	.18	.30	.36	T.	.03			.29	3.23
Sisters	Deschutes		.15						.28	.02					.04	.05			.11	.03		.06	.23	.03	.07		.12	.04				.11	1.34
Sparta	Snake			.20	.30			.70	.20	.30						.20		.20	.60	.30		.02				.20	.10					3.32
Stafford	Willamette			T.			.10	.69	.05	.37	.12	.07			.86	T.	.05	.19	1.19	.03		.77	.29	.95	.38	.10	.18	.22		.38	.08	1.02	8.09
Starkey	Grande Ronde				.01														T.						.04						.50	0.55
Summit	Willamette	.05					.06	1.20	.24	.07	.14			.08	.18	.33	.40	.15	1.30	.11		.77	.31	1.45	.08	.50	.46	.62	.35	.02		.95	9.82
Summit Prairie	Deschutes	.19					T.	.27							T.	T.	.13					.27	.05	.20		.18		.09				.07	1.45
Susanville	John Day	.10	.10		.03		.03	.14	T.						T.	.01		T.	.12	.12		.17	.17	.06	.14	.08	T.	T.				.40	1.67
Tamarack	do	.30	.16															T.						.80	T.	.15			T.			.40	1.81
Telocaset	Snake																																
The Dalles	Columbia		T.					.17	.05	T.	.02	.05			T.	.05			.42			.31	.25	.37	.06	.04		.05			.03		1.87
The Heads	Coast																																
Tinroof Cabin	Umatilla	.70	.65		T.		.25	.20							.15	.10	T.	T.	.10	.20				.20	.10		T.	T.	.30			.90	3.85
Toledo	Coast	.44					.20	.80			.10	.05		.10	.15	.35		1.05	1.05			1.10	.70	1.50	.40	.50	.60	.60					9.60
Trask	do							2.36			.80			.50	.35			.55	3.00	1.82		1.10	.52	1.81	2.52	1.20	1.00			.76	1.04	.88	20.21
Umatilla	Columbia						.09	T.	.17										.02		.08	T.		.16	T.		.25	.01				.20	0.98
Unity	Snake							.06								.23							.10	.16		.07	.03					0.65
Vale	Malheur	.10	T.					.22	.04	.08					.02					T.		T.	.25	.11				.11				0.93
Van	do	T.					.20	.10											.11			.26			.22							0.89
Wallace Orchard	Willamette			T.			.10	.87	.02		.14	.05		.08	.22		.06	.03	.68	.04		.83	.27	1.12	.13	.10	.50	.06	.18	.05		1.09	6.64
Walloupa	Grande Ronde	T.	.36		.01			.13	.05							.04	.03	.02	.60	.18		.15			.24		.07		.07			.13	2.12
Wallowa	do	.06	.27		.02		T.	.14	.05	T.		T.				T.	.06	T.	.40	.09		.14	.10	.02	.07			.11			.04	1.57
Wamic	Deschutes								.25										.20			.14	T.	.24			T.					0.83
Warmspring	do						.10								.08	.05							.13	.15								0.51
Wasco	Columbia							.06							.10			.32				.43		.05	.30	.25	.03						1.54
Welches	Umatilla																																
Weneha Springs	do		.30					.30	T.	T.					T.	T.			.40	.40		.20	T.	.30	.30	T.		.65				.80	3.65
Weston	Walla Walla		.38				.26								.15				.40	.20		.26	.05	.10	.22	.03		.25				.42	2.72
Willamina	Willamette																																
Williams	Rogue						.09	.41						.27	.20	.24		.34	.56				.62		.26			.21	.26	.46			3.92

TABLE 3.—*Maximum and minimum temperatures at selected stations for January, 1910. District No. 12, Columbia Valley.*

Date.	Montana						Idaho.																			
	Kalispell.		Missoula.		Afton, Wyo.		Boise.		Bonners Ferry.		Hotspring.		Lewiston.		Mackay §§		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	14	5	8	5	44	30	26	19	23	0	32	25	30	23	31	24	26	16	46	24	17	6	33	22	36	11	26	12
2...	18	− 3	13	2	46	12	19	− 1	23	− 4	28	15	29	4	20	−10	25	5	26	− 2	14	−11	24	5	36	4	17	10
3...	10	− 8	6	−15	14	−18	8	− 6	12	− 7	20	1	14	9	− 5	−17	5	−21	6	− 8	− 5	−36	7	−19	23	−12	12	− 1
4...	13	− 3	4	− 4	4	−10	17	− 8	21	− 3	21	− 1	21	4	7	−14	11	− 8	5	− 6	3	−25	7	− 1	0	−23	11	5
5...	17	0	17	− 6	4	−22	20	− 2	21	6	18	− 6	18	5	15	−11	16	−19	13	−10	5	−30	10	−22	4	−32	20	3
6...	18	10	27	9	8	−20	13	− 3	25	3	16	− 8	26	3	5	−23	11	0	6	−15	8	−20	7	−15	4	−10	23	10
7...	22	14	28	13	14	− 9	17	10	21	11	22	9	33	25	10	−18	20	5	14	2	19	0	16	−15	19	− 3	30	22
8...	28	16	37	19	29	7	20	10	30	19	27	− 1	35	28	8	−11	23	10	19	7	16	−13	20	5	19	10	34	26
9...	28	17	32	12	26	12	23	16	30	15	27	19	31	23	16	1	28	15	26	7	24	− 6	27	17	24	7	31	24
10...	26	6	27	11	30	10	29	15	26	9	32	15	35	19	17	0	27	16	30	9	22	−14	30	16	25	15	29	12
11...	24	8	20	− 1	25	3	20	6	35	12	29	17	31	13	16	0	27	8	23	8	15	−15	27	10	28	4	28	13
12...	19	5	19	− 4	24	1	19	6	33	12	30	2	31	18	14	− 3	26	− 1	21	− 4	11	−23	22	− 8	25	3	30	12
13...	15	− 1	24	− 6	12	−23	43	8	28	8	32	17	34	22	30	− 9	22	− 5	32	− 2	10	−21	27	9	25	− 3	31	12
14...	29	− 1	26	− 1	34	− 4	46	32	35	8	42	27	39	28	28	9	33	3	39	24	19	−18	33	18	27	2	33	20
15...	26	9	21	4	38	12	45	32	28	8	42	30	34	23	24	7	31	19	44	21	24	− 9	36	22	35	12	33	15
16...	28	19	26	6	34	20	34	17	27	19	38	30	40	23	30	8	32	18	31	23	28	3	36	22	35	18	32	22
17...	36	17	34	17	25	11	35	15	33	19	37	17	42	30	25	0	26	8	27	19	29	8	31	14	25	11	33	24
18...	42	29	41	28	32	19	41	27	37	22	46	32	45	41	13	− 4	28	20	32	23	33	7	31	14	26	13	36	30
19...	38	21	33	27	24	6	37	25	33	22	44	30	42	31	28	8	28	16	34	26	34	2	31	20	26	20	34	23
20...	31	15	32	13	32	− 2	35	14	40	18	45	30	40	28	18	− 2	24	4	30	10	19	−13	29	7	27	4	30	14
21...	32	16	30	14	38	12	38	23	35	19	45	17	46	34	32	− 1	33	8	40	9	24	−10	38	19	33	6	36	22
22...	49	32	53	28	43	30	38	31	47	33	46	32	55	42	30	14	36	30	41	26	36	9	37	28	33	22	44	33
23...	41	34	45	36	41	25	44	32	45	35	56	37	46	39	35	19	37	32	54	30	37	19	39	33	37	31	43	36
24...	44	33	45	36	42	29	50	33	49	34	46	30	49	34	43	18	39	32	53	29	46	19	40	29	35	27	41	35
25...	38	30	36	31	41	10	35	28	39	19	48	30	46	30	27	17	35	18	30	23	42	23	35	23	30	17	37	28
26...	38	27	36	23	32	0	37	24	39	27	42	23	48	33	18	− 2	34	22	30	23	37	12	33	17	25	14	33	24
27...	36	30	42	28	30	10	36	22	35	27	40	30	46	32	23	− 1	30	6	33	15	28	7	28	4	20	9	36	28
28...	38	26	40	31	30	10	35	24	41	25	39	27	44	31	30	6	36	24	30	17	36	20	35	19	27	14	36	29
29...	33	15	32	16	33	− 8	36	19	35	27	41	21	40	29	20	− 4	32	− 8	28	12	28	−15	30	18	21	−10	35	15
30...	47	27	44	21	37	−10	38	20	39	27	40	21	51	39	25	0	30	16	30	6	31	0	28	7	31	− 1	44	30
31...	42	30	49	34	40	7	51	26	41	28	51	31	49	35	32	− 2	30	22	43	14	51	15	37	20	39	10	43	28
Mns	29.7	15.3	29.9	13.8	28.9	4.8	31.8	16.6	34.2	16.1	36.2	19.3	37.7	24.8	21.5	0.0	27.1	10.0	29.8	11.6	23.9	−4.2	27.9	10.9	25.7	6.1	31.6	19.9

Date.	Washington.																									
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sisprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	37	25	26	21	25	2	35	15	25	14	37	26	26	16	24	2	33	26	33	25	30	19	23	17	33	27	37	31
2...	38	17	34	13	25	− 4	34	12	18	6	35	21	29	17	23	1	34	17	33	22	26	18	26	12	34	22	38	30
3...	32	21	31	16	18	−10	29	10	16	3	33	27	22	1	26	0	37	21	34	25	20	3	16	4	34	22	42	34
4...	38	17	33	12	11	−12	35	14	16	2	38	26	22	0	24	− 2	36	26	37	31	27	6	19	3	37	28	39	34
5...	38	19	32	23	14	− 5	36	9	15	4	41	26	23	0	23	1	37	21	36	25	27	5	19	8	37	22	40	35
6...	36	30	34	18	15	2	35	11	15	4	42	33	22	0	22	1	38	29	37	27	19	9	17	3	37	25	42	32
7...	41	33	37	24	23	10	33	31	25	11	44	36	26	12	25	15	40	32	39	34	27	11	26	16	41	33	43	38
8...	38	30	41	34	26	4	33	29	22	14	40	35	28	20	27	18	40	30	42	34	27	12	27	24	42	33	42	35
9...	37	30	38	31	29	21	32	22	22	16	38	33	26	19	26	20	39	27	39	33	27	21	29	21	40	30	39	33
10...	36	31	34	27	24	11	31	23	20	13	40	34	30	18	29	10	39	27	40	31	24	10	27	18	38	29	38	36
11...	42	32	42	32	24	9	41	27	28	19	39	34	30	20	30	5	41	30	45	36	25	20	28	16	44	33	44	38
12...	44	36	42	29	26	5	49	37	31	19	42	39	30	21	34	0	48	31	45	38	22	18	30	12	44	35	43	40
13...	48	38	46	36	24	3	44	26	26	16	44	38	31	11	33	9	53	31	51	38	34	19	30	23	50	35	50	35
14...	39	32	42	32	34	6	35	26	34	21	42	35	36	23	34	11	41	29	45	36	36	22	36	23	43	34	43	38
15...	44	32	38	27	28	8	37	30	31	22	42	34	37	12	32	10	38	30	40	35	32	14	30	20	43	34	42	38
16...	44	36	35	27	29	23	36	31	30	24	45	38	34	20	35	14	39	30	42	38	34	24	30	26	43	34	42	37
17...	47	35	40	31	30	24	36	32	27	22	46	38	30	21	39	20	47	30	43	37	38	20	38	23	45	38	47	38
18...	48	35	45	38	42	29	38	29	45	24	47	39	46	26	41	30	47	33	45	37	46	34	41	36	44	34	47	35
19...	39	32	40	33	42	21	42	23	42	26	41	35	40	26	41	23	38	31	41	32	45	31	38	28	42	33	41	34
20...	45	36	43	34	36	18	42	36	31	18	47	37	37	21	44	23	42	30	50	37	42	33	39	24	47	35	47	41
21...	50	37	45	38	34	21	46	36	35	25	48	39	41	30	46	28	46	36	48	40	41	31	42	30	51	38	49	41
22...	51	42	49	44	39	28	51	39	34	38	49	45	41	27	45	30	50	40	55	48	43	30	48	37	54	50	49	45
23...	53	40	49	45	40	34	42	36	36	32	52	45	41	32	43	38	49	43	55	48	47	36	47	39	53	47	53	45
24...	53	36	50	41	49	34	51	32	42	34	46	38	42	34	49	35	46	34	48	38	46	34	48	35	51	38	46	38
25...	42	34	43	35	38	26	45	32	40	27	42	38	40	33	39	27	41	32	45	36	40	30	39	31	45	38	43	38
26...	46	36	45	37	43	28	43	30	41	28	46	37	43	19	45	29	45	33	44	37	46	34	38	31	45	38	44	39
27...	48	38	47	38	37	22	41	37	35	27	46	40	42	28	43	30	47	36	48	40	49	34	39	30	49	39	46	37
28...	44	30	44	37	41	25	40	30	42	30	47	34	47	31	44	23	41	28	46	34	46	34	40	30	45	33	41	36
29...	45	36	43	31	30	20	36	29	33	21	46	37	36	27	45	27	48	32	45	35	40	31	38	26	49	32	46	38
30...	48	31	45	40	48	28	35	33	39	27	46	37	58	30	46	27	45	33	49	37	56	34	47	37	50	35	44	37
31...	42	30	43	36	45	33	33	32	39	30	43	34	39	35	50	28	43	29	43	32	49	35	42	30	44	33	41	31
Mns	43.0	31.8	40.5	31.0	31.3	15.0	38.6	27.1	30.2	19.6	43.0	35.1	34.7	20.3	35.7	17.2	42.2	30.2	43.3	34.7	35.8	23.3	33.5	23.0	43.7	33.4	43.5	36.7

TABLE 3.—*Maximum and minimum temperatures at selected stations for January, 1910. District No. 12*—Continued.

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	31	20	31	26	.....	.....	45	27	.....	30	29	23	42	30	38	28	.....	.....	36	29	30	14	32	24
2	21	11	32	18	.....	.....	37	21	.....	21	32	15	39	28	34	24	.....	.....	33	21	28	18	26	5
3	19	7	31	15	.....	.....	34	16	.....	27	26	− 2	44	19	28	21	.....	.....	33	16	18	5	10	−23
4	21	10	36	19	.....	.....	34	16	.....	28	28	7	46	24	32	22	.....	.....	38	22	18	2	22	− 8
5	26	12	32	16	.....	.....	36	19	.....	23	33	6	45	26	32	21	.....	.....	38	19	23	7	19	−12
6	16	7	41	27	.....	.....	36	20	.....	36	23	6	48	33	35	28	.....	.....	41	31	25	11	12	−18
7	23	12	41	32	.....	.....	43	34	.....	41	26	10	47	37	44	30	.....	.....	43	36	27	16	19	8
8	25	19	38	27	.....	.....	44	34	.....	35	28	8	54	35	40	31	.....	.....	39	33	27	12	19	− 2
9	24	16	31	25	.....	.....	43	31	.....	31	30	16	46	32	34	29	.....	.....	43	32	29	24	29	11
10	22	16	43	25	.....	.....	44	30	.....	30	28	17	43	30	34	30	.....	.....	39	30	30	24	31	16
11	18	13	44	32	.....	.....	39	31	.....	38	25	17	48	30	37	30	.....	.....	48	34	30	23	29	− 1
12	16	11	48	38	.....	.....	49	35	.....	44	23	17	56	37	34	30	.....	.....	57	30	27	23	28	− 3
13	49	9	47	32	.....	.....	53	27	.....	35	31	15	45	32	42	32	.....	.....	55	32	29	19	25	− 6
14	48	26	41	26	.....	.....	39	27	.....	33	38	12	46	30	45	32	.....	.....	44	29	30	12	32	9
15	34	18	44	32	.....	.....	45	33	.....	38	40	8	44	40	48	35	.....	.....	47	32	34	12	36	14
16	29	21	40	26	.....	.....	49	36	.....	39	30	27	45	37	43	35	.....	.....	46	30	35	28	33	12
17	48	26	44	28	.....	.....	44	35	.....	39	41	18	47	37	46	35	.....	.....	47	32	38	19	27	8
18	50	35	45	35	.....	.....	48	35	.....	43	47	36	48	40	47	36	.....	.....	48	35	41	31	34	− 1
19	41	33	44	32	.....	.....	46	35	.....	33	47	30	53	35	45	34	.....	.....	46	30	42	29	38	22
20	41	30	56	27	.....	.....	45	29	.....	35	43	25	53	34	44	37	.....	.....	37	28	38	20	30	− 2
21	52	30	56	45	.....	.....	46	29	.....	48	40	31	57	50	52	39	.....	.....	61	37	38	30	34	10
22	58	35	59	45	.....	.....	47	36	.....	51	44	30	56	51	50	41	.....	.....	55	45	41	33	37	31
23	61	44	60	46	.....	.....	52	40	.....	44	45	36	55	45	53	47	.....	.....	54	45	39	34	39	32
24	57	38	47	33	.....	.....	55	39	.....	38	45	36	45	38	48	40	.....	.....	47	35	45	33	43	30
25	46	36	37	29	.....	.....	44	35	.....	38	46	31	41	35	44	37	.....	.....	43	34	41	26	39	20
26	46	38	41	28	.....	.....	45	38	.....	40	51	33	49	36	46	38	.....	.....	48	34	43	27	42	15
27	51	39	40	34	.....	.....	47	37	.....	45	45	28	50	41	50	41	.....	.....	48	42	41	34	32	9
28	46	34	48	36	.....	.....	48	36	.....	42	51	36	51	41	47	35	.....	.....	45	41	46	34	40	28
29	52	32	48	36	.....	.....	45	37	.....	36	44	25	49	37	49	33	.....	.....	54	39	40	29	36	0
30	59	47	54	36	.....	.....	48	34	.....	42	60	32	53	38	52	34	.....	.....	63	44	59	33	32	13
31	52	27	53	29	.....	.....	55	32	.....	34	49	35	38	37	38	33	.....	.....	47	28	51	38	36	12
Mean	38.1	24.3	43.6	30.2	.....	.....	44.7	31.1	.....	37.1	37.7	21.4	47.8	35.3	42.3	32.8	.....	.....	45.9	32.4	34.9	22.6	31.0	8.2

WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

By Prof. E. B. GARRICTT, in charge of Forecast Division.

Temperature was above the January average, except over the Plateau and Pacific coast States. The most marked departures above the normal were noted in the upper Missouri and Red River of the North valleys and northeastern New England where they exceeded 6°. Over Nevada the temperature deficiency was 6° to 9°. In California the month was cold with severe frosts. Precipitation was in excess of the January normal in western Washington, parts of the southern Plateau, and southern Rocky Mountain districts and in a belt that extended irregularly eastward from Wyoming and in the middle and lower Missouri Nalley over the Middle Atlantic and New England States. The greatest deficiency in rainfall occurred in southwestern Oregon, the lower Sacramento Valley, and in the Southern States east of the Rocky Mountains, where the amount for the month was about 2 inches less than the normal. Snowfall was unusually heavy in the Ohio Valley, Lake region, and portions of the Middle Atlantic States. In southern California, southern Nevada, and northern Arizona heavy rains caused destructive floods. Flood damage due largely to ice gorges occurred at points along the Ohio and Susquehanna rivers.

The cold wave that covered Florida at the close of December carried the line of freezing temperature below Miami on the east coast and below Tampa on the west coast. In the interior a minimum of 22° was registered by the Weather Bureau instruments at Arcadia, DeSoto County. Considerable damage was caused to fruit in localities where growers failed to make provision to protect their crops. In the northern portion of the State unprotected fruit was frozen.

The Jacksonville Evening Metropolis, of January 1, 1910, remarks as follows regarding the warnings:

> The warnings of the Weather Bureau regarding the impending cold wave were heeded in many sections of the State and a great many planters protected their young plants and fruit trees.

In southern California the month opened with torrential rains that combined with melted snow from the mountains flooded rivers, crippled traffic, and resulted in great losses of railroad property about Los Angeles.

A disturbance that occupied the extreme western portion of the United States at the close of December moved slowly eastward during the first week of January, preceded over middle and northern districts east of the Rocky Mountains by a cold wave and followed west of the Rockies by exceptionally low temperature and snow. At San Francisco, Cal., the lowest temperature reached since 1888 was recorded. The night of the 4th an offshoot from this disturbance passed from the middle-western States over Lake Superior and caused a sharp rise in temperature from the Mississippi eastward. The main disturbance, however, moved from the Rocky Mountains southeastward to the Gulf of Mexico and thence northeastward, during the 5th, 6th, and 7th, over the Atlantic seaboard, attended by heavy rains in Southern, rain, sleet, and snow in Middle and Southwestern States, heavy snow in middle and northern districts from the Plateau to the Atlantic, and by gales along the Gulf and Atlantic coasts. Following the disturbance a cold wave carried the line of freezing temperature to the west Gulf coast the night of the 5th, and to the east Gulf coast the night of the 6th. On the 4th advices were telegraphed that heavy snow would set in on that date over the middle and north-central valleys and the Lake region and begin in the Middle Atlantic and New England States on the 5th. The snowfall in the north-central and northeastern sections was heavy. In the Ohio Valley and lower Lake region and thence eastward rain and sleet changed to heavy snow and in the Middle Atlantic States sleet was followed by heavy rain. Timely warning was given of the cold wave that preceded and followed the storm and the gales that attended its advance along the coasts.

The development of a disturbance that had its origin in the disturbed conditions off the southeast coasts that followed this storm retarded the advance across the continent of a storm announced on the 6th to cross the country from the 7th to 11th. The storm referred to appeared on the Pacific coast on the 7th, but did not assume marked form over the interior until the 11th, when it was located over the southern Rocky Mountain district. By the morning of the 12th the center of the disturbance had advanced to the Texas Panhandle and during the next 24 hours moved to the middle Mississippi Valley with a decided increase in strength and general precipitation in the Ohio, Mississippi, and Missouri valleys and the Southwest. In the more northern districts the precipitation was in the form of snow and in parts of the Missouri and upper Mississippi valleys and in the southwestern Lake region the snowfall was heavy. Warnings of heavy snow were issued the morning of the 12th for southern Wisconsin and Lower Michigan. The morning of the 13th heavy snow warnings were issued for the lower Lake region, northern Ohio, and the interior of New York and Pennsylvania. At that time the center of the storm occupied Ohio and the area of precipitation extended during the day to the middle Atlantic coast. The morning of the 14th warnings of heavy snow were telegraphed throughout New York and New England. Moving eastward off the middle Atlantic coast during the 14th the storm was central the morning of the 15th off the southeast New England coast and the snowfall that had attended it was sufficiently heavy to seriously interfere with traffic in parts of New York and New England. Warnings of the gales that occurred along the middle Atlantic and New England coasts during the 14th were sent out on the 13th.

On the 12th an area of high barometer that had apparently moved eastward from the northern Siberia region and the Arctic Ocean covered the American Continent from the Hudson Bay district over the interior of Alaska and a temperature of −60° was reported at Eagle, Alaska. By the morning of the 14th the British American high area had extended over the Canadian Maritime Provinces and the position of the high area with reference to the disturbance that passed eastward from the Ohio Valley defined the course of the storm and contributed to produce the heavy snows that occurred in its northern quadrants.

A disturbance that appeared on the north Pacific coast on the 13th and moved thence over the British Northwest caused general rains in the extreme west and a flow of warmer southerly winds over the Rocky Mountains and Plains States. On the morning of the 15th another storm area covered the north Pacific States, with rain along the coast north of Los Angeles.

On Sunday, the 16th, the following special forecast was issued:

> During the next few days and probably for the entire week temperature will be moderate for the season generally throughout the United States, and sharp falls in temperature will be confined mostly to the more northern States from the Lake region eastward. Precipitation that may occur in the Plains States and central valleys during the next few days and later in the middle-eastern and northeastern States will be in the form of rain, except in northern tier of States where it will fall as snow. In the southeastern States the weather of the week promises to be fair, with temperature above the average for the season.

From the 17th to 19th a storm of considerable strength advanced from the Rockies to the St. Lawrence Valley attended by general precipitation from the Plains States to the Atlantic. In extreme northern districts the precipitation was partly in the form of snow. The advance of the storm was

preceded by a marked rise in temperature and high winds, for which warnings were issued along the Atlantic coast, and it was followed by moderate falls in temperature to about the average for the season. By the 19th a general change to warmer weather had occurred over the Plains States and Mississippi Valley. During the succeeding 24 hours there was a marked fall in pressure over the Hawaiian Islands and the Azores and a decided rise over Alaska and Iceland. On the 20th a marked rise in pressure was noted over Bering Sea, Alaska, and Iceland and a decided fall occurred over the Hawaiian Islands and the Azores.

During the 24 hours ending the morning of the 20th a disturbance moved rapidly southeastward from the British Northwest to the upper Lakes and another from Colorado to Texas. The evening of the 20th storm warnings were ordered for the middle and east Gulf coasts and along the Atlantic coast from Jacksonville to Eastport. By the morning of the 21st the southern disturbance had developed marked intensity and moved northeastward to Virginia. Temperature had risen decidedly in the Atlantic States and fallen in the Plains States, Mississippi Valley, and the upper Lake region. Precipitation was general from the Mississippi Valley eastward, and in the middle and north-central valleys was in the form of snow. By the morning of the 22d the storm center had moved northeastward to the lower Lakes, with pressure 28.86 inches at Buffalo. High winds and precipitation had been general east of the Mississippi. Temperature had fallen in the East and South, with frost in northern Florida, and had risen decidedly over interior districts west of the Mississippi. Passing from the lower Lakes east of north over Ontario the disturbance moved thence northeastward north of the St. Lawrence Valley. The course of storms of this type is almost invariably northeastward to and off the Atlantic coast. In this instance persistent high pressure over the western Atlantic and the Canadian Maritime Provinces and a rapid southeast advance of a low area from Manitoba apparently contributed to cause the abnormal course of the storm. The pressure distribution referred to was also responsible for the prevailing moderate temperature of the week and for precipitation mostly in the form of rain instead of snow over eastern portions of the United States.

On Sunday, the 23d, the following special forecast was issued:

Cold weather is not indicated for the eastern half of the United States during the next 3 days. A disturbance that is now approaching the Pacific coast will advance to the Rockies by Tuesday morning, cross the Plains States and central valleys Tuesday and Wednesday and advance to the Atlantic seaboard by about Thursday, preceded by rising temperature, attended by rain in southern and snow or rain in northern States, and followed by cold weather that will reach the Plains States and central valleys about the middle of the week and the Atlantic States by Friday.

This disturbance was attended by rain and high winds on the Pacific coast Monday and by snow in Utah, Nevada, and Idaho. Tuesday morning it covered the Rockies, and Wednesday morning its center had reached the upper Mississippi Valley with reported minimum pressure 29.14 inches at Charles City, Iowa, and La Crosse, Wis. High winds and showers had occurred in the middle-west and snow flurries from the middle and northern Plateau over the Missouri and upper Mississippi valleys and the western Lake region In the Ohio and Mississippi valleys and the upper Lake region a marked rise in temperature had occurred and cooler weather was reported from the Rocky Mountain districts. By the morning of the 27th the center of disturbance had advanced to Lake Ontario, attended by rains from the Ohio Valley over the Middle Atlantic States and by snow from the Great Lakes over northern portions of New York and New England. During the next 24 hours the storm center moved to the Gulf of St. Lawrence. In the Atlantic States temperatures had risen and in the middle-western States there had been a sharp fall to about the average for the season. On this date a depression of slight depth occupied Texas and moved thence eastward over the Gulf States by the morning of the 28th with increasing intensity. Storm warnings were ordered on the middle and east Gulf and Atlantic coasts and warnings of probable heavy snow were telegraphed to Atlantic coast States from Maryland to Maine. By the morning of the 29th the storm center had advanced to the New Jersey coast, with reported minimum pressure 29.12 inches at Atlantic City. General rains or snows had fallen in the Atlantic and east Gulf States, the upper Ohio Valley, and the lower Lake region, and in the Southern States rain had been followed by clearing, colder weather. On the middle and east Gulf and Atlantic coasts the winds attending the storm were high. During the next 24 hours the disturbance moved northeastward over the Canadian Maritime Provinces.

From the middle to the closing days of the month exceptionally heavy rains and resultant destructive floods were experienced in western Europe. During thus period barometric pressure was abnormally low over Iceland and adjacent European districts and west-central and northwestern portions of Europe were almost constantly covered by the rain quadrants of a rapid succession of cyclonic areas of exceptional magnitude and intensity. Similar conditions existed over Bering Sea and adjacent portions of the Pacific Ocean and the North American Continent where gales and heavy precipitation also prevailed. During the continuance of these great cyclonic areas in the high latitudes of the oceans barometric pressure was unusually high over Siberia, the Azores, and the tropical and subtropical regions of the Pacific. On January 30 the following special forecast was issued:

Present barometric conditions over the Northern Hemisphere indicate that during the week beginning Monday, January 31, temperature will be moderate for the season generally over the United States until about the close of the week, when a cold wave is likely to appear in the extreme northwest and advance thence to the Atlantic coast by the early portion of next week. In the mean time storms that will reach the Atlantic seaboard about the middle and close of the week will be attended by sharp fluctuations in temperature in middle-eastern and northeastern States, and by precipitation generally east of the Mississippi. In middle and northern districts the precipitation will be in the form of snow. In the Missouri and western Mississippi valleys and the Plains States precipitation will be comparatively light.

During the week preceding January 30 exceptionally low temperature prevailed in the Canadian extreme Northwest and Alaska, with reported minimum −60° at Tanana, on the Yukon. Temperatures were also unusually low in California, the Gulf States, and Florida, where frost occurred on several dates. A storm that advanced from the Rockies to the Atlantic coast from Tuesday to Thursday, February 1 to 3, was attended by general precipitation east of the Mississippi and by heavy snow in northern portions of New York and New England. The

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	28.5	+ 4.0		
Middle Atlantic	15	32.6	+ 1.3		
South Atlantic	11	45.7	+ 0.6		
Florida Peninsula*	8	58.4	− 1.0		
East Gulf	11	48.7	+ 1.3		
West Gulf	10	49.0	+ 3.5		
Ohio Valley and Tennessee	13	34.2	+ 0.6		
Lower Lakes	10	25.4	+ 1.3		
Upper Lakes	12	20.0	+ 2.1		
North Dakota*	9	8.6	+ 3.5		
Upper Mississippi Valley	14	22.7	+ 1.2		
Missouri Valley	12	23.6	+ 2.5		
Northern slope	9	20.8	+ 1.8		
Middle slope	6	32.1	+ 3.1		
Southern slope*	8	43.0	+ 2.8		
Southern Plateau*	11	40.0	+ 1.1		
Middle Plateau*	10	21.1	− 3.6		
Northern Plateau*	10	25.7	− 2.3		
North Pacific	7	38.5	− 1.0		
Middle Pacific	5	44.2	− 3.0		
South Pacific	4	49.8	− 1.0		

*Regular Weather Bureau and selected cooperative stations.

week closed with a cold wave over the Missouri and middle and upper Mississippi valleys that advanced thence eastward over the Atlantic States during Sunday and Monday, attended in portions of the Middle Atlantic States by the lowest temperature of the winter. At Washington, D. C., a minimum of 8° was reached Monday morning, February 6, the lowest previous reading for the season being 8.1° on December 30, 1909. A notable feature of this cold wave was the extremely low temperatures noted in the kite flights at Mount Weather, where at an elevation above the station of 6,700 feet a reading of −26° on the morning of February 7 was recorded. At the station the the temperature at the same hour was 14°.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	11	4.65	135	+ 1.2	
Middle Atlantic	15	4.16	120	+ 0.7	
South Atlantic	11	2.34	61	− 1.5	
Florida Peninsula*	8	1.06	37	− 1.8	
East Gulf	11	3.16	64	− 1.8	
West Gulf	10	1.38	46	− 1.6	
Ohio Valley and Tennessee	13	4.11	195	+ 2.0	
Lower Lakes	10	3.68	137	+ 1.0	
Upper Lakes	12	1.84	90	− 0.2	
North Dakota*	9	0.30	50	− 0.3	
Upper Mississippi Valley	15	1.90	112	+ 0.2	
Missouri Valley	12	1.41	140	+ 0.4	
Northern slope	9	0.94	112	+ 0.1	
Middle slope	6	0.43	68	− 0.2	
Southern slope*	8	0.26	27	− 0.7	
Southern Plateau*	11	6.76	79	− 0.2	
Middle Plateau*	11	0.90	82	− 0.2	
Northern Plateau*	10	1.37	76	− 0.4	
North Pacific	7	7.33	111	+ 0.7	
Middle Pacific	7	3.27	73	− 1.2	
South Pacific	4	2.06	75	− 0.7	

*Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	78	+ 2	Missouri Valley	81	+ 6
Middle Atlantic	76	0	Northern slope	76	+ 6
South Atlantic	74	− 3	Middle slope	70	+ 3
Florida Peninsula	79	− 2	Southern slope	61	− 5
East Gulf	72	− 6	Southern Plateau	60	+10
West Gulf	69	− 7	Middle Plateau	78	+ 8
Ohio Valley and Tennessee	78	+ 1	Northern Plateau	77	− 3
Lower Lakes	82	+ 1	North Pacific	84	− 1
Upper Lakes	84	+ 1	Middle Pacific	82	+ 1
North Dakota	90	+10	South Pacific	69	− 6
Upper Mississippi Valley	81	+ 3			

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	6.6	+ 0.7	Missouri Valley	5.5	+ 0.5
Middle Atlantic	6.8	+ 1.0	Northern slope	5.4	+ 0.3
South Atlantic	5.2	− 0.1	Middle slope	4.6	+ 0.5
Florida Peninsula	4.6	− 0.2	Southern slope	4.8	+ 0.4
East Gulf	4.8	− 0.9	Southern Plateau	3.4	0.0
West Gulf	4.4	− 0.9	Middle Plateau	5.4	+ 0.3
Ohio Valley and Tennessee	7.1	+ 0.7	Northern Plateau	7.7	+ 1.0
Lower Lakes	8.4	+ 1.0	North Pacific	7.8	+ 0.3
Upper Lakes	7.5	+ 0.6	Middle Pacific	6.6	+ 1.0
North Dakota	5.8	+ 0.9	South Pacific	5.1	+ 0.6
Upper Mississippi Valley	6.2	+ 0.8			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Alpena, Mich	5	56	se.	New York, N. Y	29	56	w
Block Island, R. I	4	62	nw.	North Head, Wash	17	78	s.
Do	14	73	ne.	Do	18	60	s.
Buffalo, N. Y	18	56	sw.	Do	23	50	se.
Do	22	56	sw.	Do	24	64	se.
Do	23	56	sw.	Do	25	61	se.
Burlington, Vt	1	50	s.	Do	27	58	se.
Do	5	54	s.	Do	29	60	se.
Do	22	52	s.	Do	30	61	s.
Canton, N. Y	3	50	w.	Do	31	70	nw.
Do	19	50	sw.	Oklahoma, Okla	20	50	n.
Do	22	52	se.	Point Reyes Light, Cal	1	54	nw.
Cheyenne, Wyo	18	54	w.	Do	13	72	s.
Do	25	50	nw.	Do	14	69	s.
Do	26	60	w.	Do	15	68	s.
Cleveland, Ohio	5	54	ne.	Do	23	65	s.
Duluth, Minn	20	52	nw.	Do	24	58	s.
Eastport, Me	22	56	se.	Do	31	83	nw.
Hatteras, N. C	29	58	s.	Providence, R. I	22	52	se.
Indianapolis, Ind	26	50	w.	St. Louis, Mo	26	50	w.
Jacksonville, Fla	28	54	sw.	Sioux City, Iowa	20	55	nw.
Memphis, Tenn	18	54	sw.	Southeast Farallon, Cal	13	58	s.
Do	20	50	nw.	Do	14	50	s.
Milwaukee, Wis	4	55	se.	Do	15	50	s.
Modena, Utah	1	58	sw.	Do	31	60	n.
Mount Tamalpais, Cal	13	54	sw.	Syracuse, N. Y	5	58	s.
Do	23	57	sw.	Do	22	54	se.
Do	31	70	nw.	Tatoosh Island, Wash	1	57	ne.
Mount Weather, Va	7	62	nw.	Do	15	54	ne.
Do	29	58	nw.	Do	17	66	s.
Nantucket, Mass	14	66	ne.	Do	18	53	sw.
Do	15	60	ne.	Do	25	50	sw.
Do	29	64	sw.	Do	26	62	sw.
New York, N. Y	4	50	nw.	Do	29	64	s.

RAINFALL IN JAMAICA.

The northern division comprises the northern shores from Port Maria to Davis Cove, including the central part of the Island which forms the central subdivision; the southern division comprises the southern shores from Holland Bay to South Negril; the northeastern and west-central divisions are the remaining parts of the Island bounded by the sea and the other divisions.

Through the kindness of Mr. Maxwell Hall, meteorologist to the government of Jamaica and now in charge of the meteorological service of that island, we have received the following data:

Comparative table of rainfall.

[Based upon the average stations only.]

JANUARY, 1910.

Divisions.	Relative area.	Number of stations.	Rainfall.	
			1909.	Average.
			Inches.	*Inches.*
Northeastern division	25	17	11.64	7.23
Northern division	22	41	4.75	3.75
West-central division	26	20	2.18	2.98
Southern division	27	26	2.58	1.84
Means	100		5.29	3.95

The heaviest rainfall, 37.57, was recorded at Mount Holstein, and the smallest, 0.08, at Whitehall.

There was a remarkably heavy rainfall in the western half of the Parish of Portland; besides Mount Holstein, Greenvale and Shrewsbury had very heavy rainfalls.

RIVERS AND FLOODS.

By Prof. H. C. FRANKENFIELD, in charge River and Flood Division.

By far the most destructive floods of the month occurred in Utah and portions of Nevada and southern California. No river work is performed by the Weather Bureau in these sections, but at the request of the River and Flood Service, the officials in charge of the local offices of the Weather Bureau at Salt Lake City and Los Angeles were requested to prepare reports regarding the floods, and their descriptions will be found in another portion of this REVIEW.

Several lives were lost in these floods and the losses amounted to approximately $3,000,000, of which probably three-quarters fell upon the railroads.

The rivers of Arizona were under the influence of the same general conditions that caused the Utah and California floods, but the floods were not serious, although they did damage to the estimated amount of $38,000, divided as follows:

Losses to property	$25,000
Losses to crops	3,000
Losses due to erosion	5,000
Losses due to suspension of business	5,000
Total	38,000
Value of property saved by Weather Bureau warnings	$10,000

Floods occurred generally during the month over the northern districts east of the Mississippi River and in the middle Arkansas and Neosho rivers. The western floods were caused by unusually large percentages of run-off from moderate rainfalls on frozen soil, while the remainder were due to substantial rainfalls accompanied by high temperatures that melted the snows and broke the ice gorges, releasing the large accumulations of water behind them.

The rise in the Arkansas River was most pronounced in the vicinity of Wichita, Kans., where the river rose nearly 6 feet on January 12 and 13, doing damage to bridges to the amount of $4,000. The rise was caused by the rapid run-off of moderate rains over the frozen ground in the Little Arkansas and lower Arkansas watersheds, and the greater portion of the damage was caused by ice. Some lowlands and farm lands above Wichita were overflowed, but the damage to these was nominal.

The flood in the upper Neosho River lasted from January 14 to 18, inclusive. During an extended period of abnormally cold weather from 2 to 6 inches of ice, sleet, and snow had accumulated over southern Kansas. On January 12 a sudden rise in temperature accompanied by moderately heavy rains set in, and owing to the frozen condition of the ground the run-off was exceedingly rapid. At Emporia, Kans., the Cottonwood River reached a stage of 23.5 feet on January 24, and the river was above the flood stage of 19 feet from January 13 to 17, inclusive. Ice gorges in the vicinity of Neosho Rapids, Kans., delayed the flood crest at points below, and it did not reach Iola, Kans., until midnight, January 17, when a stage of 11.5 feet, 1.5 foot above the flood stage, was reached. At Le Roy, Kans., the crest stage was 23 feet, 1 foot below the flood stage, from 6 p. m., January 16, to 8 a. m., January 17. Losses were approximately as follows:

Losses of property, excluding crops	$5,000
Losses of crops left standing	4,000
Losses by erosion and deposit	1,500
Losses through suspension of business	700
Total	11,200
Value of property saved by Weather Bureau warnings	$14,500

Nothing unusual occurred along the Mississippi River, except in the vicinity of St. Louis, although all the rivers in the district were higher than usual during the month. At St. Louis the mean stage of 18.3 feet was the highest average January stage ever recorded, the high waters having been caused by ice gorges that began to form below the city during December, 1909. The ice accumulated until an almost solid dam extended from Jefferson Barracks, Mo., to Chester, Ill. The gorge lasted until January 14. Gorges had also formed in the Missouri River below Hermann, Mo., and in the Mississippi River at Alton, Ill. On January 14 a general break occurred, and the river at St. Louis, which had been rising steadily for two weeks to a stage of 24.4 feet on January 13, rose rapidly to 31.9 feet at 1 a. m., January 14, 1.9 feet above flood stage. The decline was almost as rapid and at 8 a. m., January 14, the stage was 26.5 feet. As the waters receded nearly every boat in the vicinity was beached, and all were somewhat damaged. There was no high water above or below St. Louis. The Illinois River was also above flood stage during the latter half of the month, but no damage was reported.

The conditions in the Ohio watershed above the mouth of Salt River did not become critical at any time, except in the Allegheny River between Freeport and Pittsburg, Pa. There was a 15-foot ice gorge at Freeport, with smaller ones at other places, and the rains and high temperatures on January 17 and 18 caused much alarm, especially in view of the fact that large quantities of snow had accumulated over the entire watershed of the river. Fortunately the rainfall was not excessive, and when the gorge at Freeport broke at 7:30 p. m., January 18, the ice moved out with only a moderate flood wave that reached a crest of 22.3 feet at Pittsburg, 0.3 foot above the flood stage, at noon, January 19. A smaller gorge in Mahoning Creek broke at the same time that the first crest reached Pittsburg, resulting in a second crest of 22.8 feet at 8 p. m., after which time the water began to fall. The greatest damage occurred in the small creeks, the backwater from ice gorges flooding cellars and washing away bridges, and the losses of this character amounted to about $50,000. At Pittsburg the warnings of the coming of the flood prevented any serious damage, and the total losses, including those occasioned by temporary suspension of business, did not exceed $20,000. The value of property saved by the Weather Bureau warnings was about $100,000. No flood stages occurred between Pittsburg and Louisville, except at the mouth of the Great Kanawha River.

Between the mouths of the Salt and Wabash rivers conditions were entirely different. On the evening of December 21, 1909, a gorge formed in the short bend of the river just below the town of Wolf Creek, Ky. It backed up gradually, and eventually reached the mouth of Salt River, about 20 miles below Louisville, so that at the time of its breaking its total length was about 53 miles. A smaller gorge also formed at Mount Vernon, Ind., on December 26, 1909, backing up as far as Evansville, Ind., by December 29. This gorge moved out on January 9, 1910, without doing any damage of consequence. In the meantime conditions above Evansville had been gradually becoming more serious, and the safety of near-by towns, as well as that of property below the gorge was threatened. Mild and rainy weather set in on January 13, and warnings were at once issued from the local office of the Weather Bureau at Evansville to protect or remove all property liable to damage from ice or high water. With the advent of a warm rain on January 18, the gorge finally gave way at 10:10 a. m., on that date, and notice of the fact was scattered broadcast within 30 minutes after. A field of ice that had been left stranded in front of the city of Evansville suddenly moved out at 1 p. m., January 20, but the river continued to rise until noon, January 21, when the crest of 37.8 feet, 2.5 feet above flood stage, was reached. River navigation was partially resumed on this date, and on the

following day the river at Evansville was free from ice. The rise from the upper river set in early on January 23, and during the afternoon of January 27, the river came to a stand at a stage of 38.6 feet. At daybreak, January 31, the water was below the flood stage of 35 feet for the first time in 12 days. At Henderson, Ky., the crest stage of 36.6 feet, 1.6 feet above flood stage, was reached at midnight, January 26–27, while at Mount Vernon, Ind., the crest stage of 38.2 feet, 3.2 feet above flood stage, was reached at 6:30 p. m., January 27. Some empty coal barges, shanty boats, and other craft were torn from their moorings and carried downstream, which was about all the damage done in the district. The warnings issued by the Weather Bureau during those periods were especially accurate and timely, and by their thorough dissemination, saved an immense amount of property. Much assistance was rendered by several public-spirited citizens, and special thanks are due Miss Price, the Postmistress at Brandenburg, Ky., for her valuable services. On January 20, 1910, the Evansville, Ind., Journal-News commented as follows:

> It is true that the big gorge came in like a lion and is going out like a lamb. But one of the causes for its peaceful passing is the fact that it was long in forming, the people along the lower river who would be endangered by it were thoroughly aware of its size and menace, and when it did break the Weather Bureau gave instant warning. Everybody was prepared for the rapid rush of ice, and those boatman and farm dwellers who had been dilatory had sufficient time to get out of danger's way. The care taken by the Evansville bureau to keep the whole lower valley prepared, and the provisions for an instant dissemination of the news from the Wolf Creek gorge when it broke were distinct proofs of the service of the Bureau. River men and bayou people are coming more and more to depend upon the Weather Bureau absolutely.

Nothing of interest occurred below the mouth of the Wabash River. There was a flood in the Wabash River caused by the breaking of ice gorges, and the river at Mount Carmel, Ill., was above the flood stage of 15 feet from January 18 to 31, inclusive, with a crest stage of 21 feet on January 26 and 27. Considerable damage was done by this flood in the vicinity of Mount Carmel and Shawneetown, Ill., and Owensville, Ind., and it is roughly classified as follows:

Property, excluding crops	$103,000
Crops	30,000
Damage by erosion, etc	10,000
Suspension of business	22,500
Total	165,500
Property saved through Weather Bureau warnings	$101,000

The interior rivers of the State of Ohio were in flood at the same time and under the operation of the same causes as those responsible for the floods in the main river. On January 16 there were from 2 to 3 inches of snow on the ground over southern and 6 inches over northern Ohio. This snow had fallen on soil that had become saturated from previous rains and afterward frozen. More snow on January 16 turned to warm rain on the following day, causing rapid rises over all the rivers, which were further augmented on January 20 and 21 by more warm rains.

While flood stages were reached generally, they were not so much due to rain and melted snow as to ice gorges, which raised the waters a few feet above the height that they would ordinarily have reached with a free flow. These conditions prevailed throughout the watersheds of the State, and particularly in that of the Maumee River where ice was very plentiful and easily gorged.

Throughout the State of Ohio there was minor damage by ice and water, and some flooding of lowlands, but the losses were small, and the greater portion were probably those occasioned by delayed steam and electric traffic.

The Susquehanna watershed was ice bound from December 20, 1909, to January 19, 1910, with ice varying in thickness from 6 inches to over 2 feet. At 2 a. m., January 19, the ice broke at Clearfield, Pa., on the West Branch, and moved out on between 8 and 9 feet of water. The breaks were due to high temperatures, melting snows, and rains over the headwaters on January 18. Ice gorged near Jersey Shore, Pa., on the night of January 19, flooding some lowlands, but there was no farther movement until January 21, when general rains and high temperatures with melted snows caused the ice in West Branch to break and a general movement began.

There was no damage of consequence above Harrisburg, but a great deal below, especially at Port Deposit, Md., where the flood caused by the gorge was the greatest in the history of the town, with a stage 3 feet higher than that reached in the great ice flood of March, 1904. Much damage was also done at Perryville and Havre de Grace, Md. The total losses amounted to about $200,000.

The Lehigh and Delaware rivers were also moderately high at the same time with some flood stages in the Lehigh, but no damage of consequence resulted.

At 10:00 a. m., January 22, warnings were issued for flood stages in the Hudson River in the vicinity of Albany, N. Y., as it was feared that the rains and melting snows would cause the ice to move and form gorges below Albany, N. Y. Although there was but little rise at headwaters, the results were in accordance with the warnings, as the gorges backed up the water at Albany and Troy to stages from 1.5 to 2.5 feet above the flood stage. The damage amounted to about $10,000, while the value of property saved by the warnings was about $35,000.

The same general conditions prevailed over western New England, and there were moderate floods in all streams, resulting in considerable damage of a minor character, and much inconvenience. At Hartford, Conn., the Connecticut River reached a stage of 20.2 feet at 9 p. m., January 23, 4.2 feet above the flood stage. The water would probably have gone off without a flood had not an ice gorge formed a short distance below the city, causing a rise of 5 feet in less than 1 hour. However, no damage of consequence was reported.

Navigation in the lower Potomac River was occasionally interrupted by ice during the month, but the inconvenience was only temporary.

The rivers of the South and of the Pacific coast were quiet with stages over the former district, as a rule, somewhat above the January average.

The issue of warnings was attended by the many difficulties incident to the presence of ice gorges, as well as an abnormal amount of accumulated snowfall lying upon a frozen soil, but almost without exception, the warnings of the floods were of the most accurate character, both as to stages and time, while the distribution of the information regarding the movements of ice gorges was so thorough and effective that the resulting losses were reduced to a minimum.

ICE.

There was not much change in the ice situation during the month, except such as have been described in the foregoing reports.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

ANNUAL SUMMARY AND INDEX FOR THE MONTHLY WEATHER REVIEW.

In harmony with the general plan of the changes which have already been made in the character and scope of the MONTHLY WEATHER REVIEW, it is announced that no Annual Summary will be issued for 1909.

The tabular matter which has heretofore been published in the Annual Summaries will in part now appear in the Annual Report of the Chief of the Weather Bureau, quarto edition.

The title-page and index to Volume 37 of the MONTHLY WEATHER REVIEW will be issued as a separate pamphlet uniform in style and contents with that of previous years. A copy of the title-page and index for 1909, Volume 37, will be mailed to each address on the lists of the REVIEW for December, 1909, and to such recipients of the June, 1909, issue as may request it.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be lent for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a ——.

Aristoteles.
Météorologie d'Aristote. Traduite en français . . . avec le petit traité apocryphe Du monde par J. Barthélemy Saint-Hilaire. Paris. 1863. xciv, 468 p. 8°.

Austria. K. k. hydrographisches Zentralbureau.
Der Wolkenbruch in der Umgebung von Horitz in Böhmen am 12. September 1909. Wien. 1910. 4 p. f°. (Sonderabdruck aus der "Oesterreichischen Wochenschrift für den öffentlichen Baudienst. Heft 2. Jahrgang 1910.)

Bouches-du-Rhone. Commission de météorologie.
Bulletin annuel. Année 1908. 27me année. Marseille. 1909. x, 120 p. 4°.

Canada. Department of marine and fisheries.
Report of the meteorological service of Canada. . . . 1906. Ottawa. 1909. xxi, 621 p. f°.

Casella & co., *pub.*
Anemometers, air meters & wind direction instruments. London. 1908. 32 p. 8°.
Meteorological instruments. London. 1908. 119 p. 8°.
Self-recording instruments (Richard's) for scientific, engineering, and industrial purposes. 1907. 52, xv p. 8°.

Grüner, P.
Dämmerungserscheinungen und Alpenglühen, beobachtet in Bern im Jahre 1909. (Separat-Abdruck aus den Mitteilungen der naturforschenden Gesellschaft in Bern aus dem Jahre 1909.)

Jersey. Observatoire St. Louis.
Bulletin des observations météorologiques. 16e année. 1909. Jersey. 1909–1910. [30] p. 4°.

Krakow. Observatoryum.
Wyniki spostrzezen meteorologicznych w Galicyi w roku 1908 zestawione w. c. k. Observatoryum astronomicznem w Krakowie. [Krakow. 1909.] 82 p. 8°.

Merzifun (Asia Minor). Anatolia college.
Meteorological records. 1909. 1 sheet. 36 × 23 cm.

Mysore. Meteorological department.
Meteorology in Mysore. Bangalore. 1909. 56 p. f°.

Rotch, A. Lawrence.
The conquest of the air, or the advent of aerial navigation. New York. 1909. x, 192 p. 12°. (Present day primers.)

Rudel, —.
Die Witterung Nürnbergs 1908. Nürnberg. 1909. 37 p. 8°.
Same. 1909. Nürnberg. 1910. 37 p. 8°.

San Fernando. Instituto y observatorio de marina.
Anales . . . Sección 2. Observaciones meteorológicas, magneticas y sismicas. Año 1908. San Fernando. 1909. viii, 156 p. f°.

Stonyhurst college observatory.
Results of meteorological and magnetical observations. 1909. Liverpool. xv, 63 p. 12°.

Tams, E.
Die seismischen Registrierungen in Hamburg von 1. April 1908 bis zum 31. Dezember 1908. Hamburg. 1909. 33 p. 4°.

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ——.

Aircraft. New York. v. 1. March, 1910.
Rotch, A. Lawrence. The relation of wind to aerial navigation. p. 19–20.
—— A. Lawrence Rotch. p. 23. [With portrait.]
—— Dr. Octave Chanute. p. 23. [With portrait.]

American geographical society. Bulletin. New York. v. 42. January, 1910.
Watt, Andrew. The exploration of the upper air. p. 37–51. [Repr. Journal Scott. met. soc.]

Engineering news. New York. v. 63. 1910.
Harts, William W. The relation of forests to stream flow. p. 245. (Mar. 3.)
Moore, Willis L. The influence of forests on climate and on floods. p. 245–249. [Abstract.] (Mar. 3.)
—— The forests and stream flow controversy continued. p. 252–253. (Mar. 3.)
Beardsley, R. C. Forests and stream flow. p. 255–256. (Mar. 3.)
Algué, José. Two severe storms in northern Luzon. p. 279–280 (Mar. 10.)

Geographical journal. London. v. 35. March, 1910.
Watkiss, Lloyd. Notes on Kordofan province. p. 249–267. [Climate, p. 257.]

Indian meteorological department. Memoirs. Simla. v. 18, pt. 4. 1909.
Eliot, Sir John. A discussion of the anemographic observations recorded at Roorkee from September, 1879, to August, 1904. p. 431–494.
Eliot, Sir John. A discussion of the anemographic observations recorded at Lahore from June, 1889, to May, 1905. p. 497–557.
Eliot, Sir John. A discussion of the anemographic observations recorded at Mussoree during the summer half-year (May to October) during the twelve-year period, 1877–1888. p. 559–613.

Nature. London. v. 82. February 10, 1910.
—— The Paris floods. p. 434.

Royal meteorological society. Quarterly journal. London. v. 36. January, 1910.
Cave, Charles J. P. Methods employed for observing pilot balloons. p. 1–6. [Illustrated.]
—— Dines's meteorograph for registering balloons. p. 6.
Marriott, William. Registering-balloon ascents at Gloucester, June 23 and 24, 1909. p. 7–15. [Illustrated.]
Brown, W. Piffe. Winter temperatures on mountain heights. p. 17–19.
Gold, Ernest. The semi-diurnal variation of rainfall. p. 21–24.
Shaw, William Napier. The variations of currents of air indicated by simultaneous records of the direction and velocity of the wind. p. 25–37.
Reed, William Gardner, jr. The study of phenomenal climatology. p. 39–48. [Discusses the cyclonic unit. Illustrated.]
Reed, William Gardner, jr. South American rainfall types. p. 49–59. [Illustrated.]
—— Climate of Brazil. p. 59–62.
—— Periodic changes in the seasonal positions and tracks of anticyclones. p. 65–67.

Royal society of Edinburgh. Transactions. Edinburgh. v. 47, pt. 1. 1909.
Mossman, Robert C[ockburn]. The meteorology of the Weddell quadrant and adjacent areas. p. 103–136. (no. 5.)
Mossman, R[obert] C[ockburn]. The monsoons of the Chilian littoral. [Preliminary note.] p. 137–141. (no. 6.)

Royal society. Philosophical transactions. London. ser. A. v. 208.
Schuster, Arthur. The diurnal variation of terrestrial magnetism. p. 163–204.

Science. New York. v. 31. March 11, 1910.
Palmer, Andrew H. Recent progress in meteorology and climatology. p. 390–394.

Scientific American supplement. New York. v. 69. 1910.
—— Experiments with wireless weather signals from the north Atlantic. p. 153.
—— New investigation of the rainbow. p. 187. (Mar. 19.)

Scottish geographical magazine. Edinburgh. v. 26. March, 1910.

Myres, John L. The geographical study of Greek and Roman culture. p. 113–130. [Relations of Mediterranean climate to culture. Periodical incursions of barbarians due to periods of deficient rainfall.]

Ciel et terre. Bruxelles. 30 année. 16 février 1910.

[**Dryepondt**]. Le climat équatorial et ses conséquences. p. 578–585.

Cosmos. Paris. 59 année. 5 mars 1910.

Marre, Francis. La coleur du ciel. p. 272–273. [Opposes the hypothesis that variations in the blue of the sky are a subjective effect, due to varying fatigue of the retina.]

France. Académie des sciences. Comptes rendus. Paris. 21 février 1910.

Montessus de Ballore, —. Sur le barographe considéré comme sismoscope enregistreur. p. 486–487.

Journal de physique. Paris. Tome 9. Février 1910.

Lallemand, Ch. Les marées de l'écorce terrestre. p. 113–129.

Nature. Paris. 38 année. 26 février 1910.

Martel, E. A. Le cycle météorologique de trente-cinq ans ou période de Brückner. p. 101, suppl. [Cites several opinions adverse to Brückner's theory.]

Globus. Berlin. Band 97. 10. Februar 1910.

Eckhardt, W. R. Die Theorie von Polverschiebungen und ihre Bedeutung für das paläothermale Problem, insbesondere die diluviale Eiszeit. p. 91–94.

Himmel und Erde. Berlin. Jahrgang 22. Februar 1910.

Müller, Ludwig. Erdbeben. p. 193–215.

Illustrierte aeronautische Mitteilungen. Berlin. 23. Februar. 1910.

Dieckmann, Max. Magnetische und electrische Probleme für die Luftschiffahrt. p. 7–12.

Meteorologische Zeitschrift. Braunschweig. Band 27. Februar, 1910.

Merecki, R. Über den Einfluss der veränderlichen Sonnentätigkeit auf den Verlauf der meteorologischen Elemente auf der Erde. p. 49–61.

Busch, Friedr. Der Bischopsche Ring und das Hauptpurpurlicht der Abenddämmerung in den Jahren 1907 bis 1909 einschliesslich nach Beobachtungen in Arnsberg. p. 61–65.

Müller, Paul. Die erdmagnetische Störung am 25. September 1909, beobachtet in Ekaterinburg. p. 65–68.

Schmauss, A. Friedrich Erk. p. 69–70.

Schreiber, A. Über Logarithmenpapiere und ihre Anwendung in der Meteorologie. p. 70–72.

—— Klima von Merzifun (Kleinasien). p. 74.

Wolff, Hermann. Über die graphische Ermittelung des Hauptgradienten. p. 79–80.

Peppler, A. Die vertikalen Temperaturgradienten über Lindenberg im Jahre 1906 bei verscheidenen Wetterlagen. p. 83–87.

H[ann], J[ulius]. Klimatafel für Makau. p. 87.

Defant, A. J. Craig: Über Verdunstung und Feuchtigkeit. p. 88–89.

Mitteilungen aus den deutschen Schutzgebieten. Berlin. 22. Band. 1909.

Seiner, Franz. Ergebnisse einer Bereisung des Gebietes zwischen Okawangó und Sambesi (Caprivi-Zipfel) in den Jahren 1905 und 1906. p. 2–111. [Climate, p. 12–18.]

Jaeger, Fritz. Forschungen in den Hochregionen des Klimandscharo. p. 113–146; 161–197. ["Kap. 4. Das Klima des Klimandscharo, besonders des Kibo." [Illustrated.]

—— Ergebnisse der Regenmessungen in Kamerun im Jahre 1907. p. 147–153.

—— Jahresbericht über das meteorologische Beobachtungswesen im südwestafricanischen Schutzgebiet vom 1. Juli 1907 bis 30. Juni 1908. p. 154–160.

Heidke, P. Meteorologische Beobachtungen aus Deutsch-Ostafrika. Teil IV. Zusammenstellungen von Monats- und Jahresmitteln aus den Jahren 1905 und 1906 an 28 Beobachtungsstationen. p. 198–269.

—— Ergebnisse der meteorologischen Beobachtungen in Togo im Jahre 1908. p. 270–276.

—— Ergebnisse der Regenmessungen in Kamerun im Jahre 1908. p. 284–290.

—— Ergebnisse der meteorologischen Beobachtungen in Kusseri am Logone 1907–08. p. 291–294.

—— Aus den Schutzgebieten der Südsee. Ergebnisse der Regenmessungen im Jahre 1908. p. 299–304.

Prometheus. Berlin. Jahrgang 21. 9. Februar 1909.

—— Das spezifische Gewicht von Schnee. p. 75, Beilage. [Specific weight of snow according to Schaller varies from 0.12 to 1.31 under different conditions.]

Wetter. Berlin. 27. Jahrgang. Februar 1910.

Ständer, F. Gibt es Vorzeichen für einen harten, mittleren oder milden Winter? p. 29–33. [Warm and moist late autumn and early winter indicate that the rest of the winter will be mild.]

Naegler, Wilhelm. Die meteorologische Station Caaschwitz (Reuss i. L.) 1898–1908. p. 36–43.

Grossmann, [L.] Der Gebrauch der Chiffrierung im Wetterdienst. p. 44–48.

Wiener Luftschiffer-Zeitung. Wien. 9. Jahrgang. 15. Februar 1910.

Broichsitter, Heinrich. Über Windmessapparate. p. 58–60.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations. Of course the number of such records is smaller than the total number of stations.

Temperature and precipitation by sections, January, 1910.

Section.	Temperature—in degrees Fahrenheit.							Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.					Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	45.8	+ 0.4	Spring Hill	79	4	Riverton	7	8†	3.53	− 0.88	Hamilton	4.90	2 stations	1.60
Arizona	44.8	+ 0.1	Florence	86	21	Flagstaff	−22	5	1.05	+ 0.02	Jerome	4.89	3 stations	0.00
Arkansas	41.8	− 2.1	3 stations	78	1	Wynne	− 7	7	2.59	− 1.77	Arkansas City	6.19	Bergman	0.74
California	41.9	− 3.1	San Jacinto	89	30	Alturas	−30	3	4.86	− 0.32	Monumental	17.17	2 stations	0.00
Colorado	23.2	− 1.0	Hoehne	84	24	2 stations	−40	6	0.98	− 0.10	2 stations	5.43	2 stations	0.00
Florida	55.8	− 1.2	Orange City	85	6	3 stations	20	1†	1.39	− 1.63	Bonifay	3.58	Hillard	0.12
Georgia	45.8	+ 0.1	St. Marys	84	3	Lost Mountain	12	7	3.14	− 0.06	Monticello	4.89	Valona	0.68
Hawaii	66.3	.....	2 stations	88	1†	2 stations	30	21†	9.41	.....	Kaueleau, Hawaii	33.70	Waianae, Oahu	0.46
Idaho	20.4	− 5.0	2 stations	56	23†	Salmon	−36	3	2.14	− 0.12	Grand Forks	6.25	Hotspring	0.44
Illinois	26.7	0.0	2 stations	67	1	Lanark	−31	7	2.11	− 0.31	Grafton	3.48	Contsburg	0.29
Indiana	28.4	− 0.2	Rome	64	26	Paoli	−23	7	2.90	+ 0.04	Butlerville	4.62	Judyville	0.88
Iowa	18.2	− 1.2	2 stations	56	10†	Elkader	−33	7	1.57	+ 0.52	Sheldon	3.15	Washta	0.55
Kansas	30.4	+ 0.8	Hugoton	77	24†	Frankfort	−26	6	1.00	+ 0.29	Topeka	2.42	Wallace	0.07
Kentucky	33.8	− 1.4	Hopkinsville	70	26	Beaver Dam	−20	7	4.41	+ 0.40	Beattyville	5.98	Owensboro	2.29
Louisiana	51.8	+ 1.6	Cheneyville	85	5	Plain Dealing	13	7	3.28	− 1.12	Collinston	6.21	Grand Cane	1.09
Maryland and Delaware	32.4	− 0.3	Cambridge, Md	69	3	Taneytown, Md	−12	16	4.29	+ 1.34	Sanatorium, Md	5.81	Delaware City, Del	1.40
Michigan	21.0	+ 0.6	2 stations	50	20†	Iron River	−24	7	1.90	− 0.21	Columet	4.08	2 stations	0.50
Minnesota	11.8	+ 2.1	3 stations	43	18†	Roseau	−40	4	0.83	+ 0.21	New Ulm	2.60	Roseau	T.
Mississippi	47.7	+ 1.2	Waynesboro	84	5	2 stations	6	7†	4.15	− 0.85	Greenville	6.58	Lake Como	1.60
Missouri	32.3	+ 0.9	Warsaw	78	25	Bethany	−24	6	1.83	− 0.28	Sikestown	3.98	Steelville	0.37
Montana	20.6	+ 0.9	Chouteau	68	21	Foster	−36	3	0.99	− 0.04	Snowshoe	9.17	2 stations	T.
Nebraska	22.0	− 1.4	3 stations	62	24†	Burge	−27	5	0.69	+ 0.19	Nebraska City	2.20	5 stations	0.00
Nevada	22.1	− 6.9	Logan	70	24	2 stations	−28	5†	1.28	− 0.10	Glenbrook	4.60	Jean	0.00
New England*	25.6	+ 3.6	Rockport, Mass	64	28	Woodstock, Vt	−28	5	4.65	+ 0.98	Waterbury, Conn	8.05	Houston, Me	0.95
New Jersey	29.7	0.0	4 stations	54	21	Layton	−15	17	5.04	+ 1.34	College Farm	6.65	Layton	3.66
New Mexico	35.7	+ 1.4	Carlsbad	86	1	Red River Canyon	−30	6	0.40	− 0.24	Red River Canyon	3.30	6 stations	0.00
New York	23.4	+ 1.7	4 stations	54	21†	Indian Lake	−33	5	4.19	+ 1.32	Southeast Reservoir	8.09	Chazy	0.90
North Carolina	40.8	+ 0.5	Marion	80	3	Banners Elk	4	8	3.24	− 0.51	Highlands	5.67	Wilmington	1.07
North Dakota	9.4	+ 3.3	Washburn	49	18	Pembina	−35	3	0.33	− 0.24	Hannah	1.80	3 stations	0.00
Ohio	37.6	− 0.4	Cincinnati	62	26	Milligan	−24	10	4.48	+ 1.64	McConnelsville	7.00	Defiance	1.78
Oklahoma	40.1	+ 1.8	Erick	89	1	Beaver	−10	5	0.89	− 0.30	Jefferson	2.68	Harrington	0.00
Oregon	31.3	− 3.4	2 stations	66	30	2 stations	−25	3	4.64	− 0.18	Glenora	22.79	Dayville	0.29
Pennsylvania	27.2	− 0.1	Indiana	56	20	Lawrenceville	−22	16	5.55	+ 2.17	Somerset	8.91	Milford	3.27
Porto Rico	72.0	− 1.3	3 stations	92	9†	Cidra	45	28	4.69	+ 1.57	Camerio Falls	13.79	Hacienda Potala	0.00
South Carolina	45.5	− 0.2	Greenville	80	3	Darlington	11	12	2.98	− 0.39	Liberty	4.45	Beaufort	1.15
South Dakota	15.5	− 1.0	Fort Meade	63	24	2 stations	−32	6	1.23	+ 0.58	Dumont	4.59	Watertown	T.
Tennessee	38.4	+ 0.6	Rugby	73	2	Springville	−17	7	4.16	− 0.42	New River	6.64	Sparta	2.17
Texas	50.6	+ 2.2	5 stations	89	1†	Miami	− 5	5	0.85	− 0.63	Cuero	4.22	8 stations	0.00
Utah	23.8	− 2.3	Springdale	70	30	Fort Duchesne	−34	6	1.51	+ 0.13	Panguitch Lake	5.20	Richfield	T.
Virginia	35.7	+ 0.4	Warsaw	75	3	Stevens City	0	16	3.00	+ 0.47	Callaville	6.45	Ashland	1.75
Washington	30.9	− 1.5	Sunnyside	62	30	Newport	−15	3	4.08	− 0.45	Clearwater	22.23	Ephrata	0.25
West Virginia	32.0	+ 0.3	Burlington	67	3	3 stations	− 5	8†	5.68	+ 2.37	Pickens	10.10	Nuttallburg	2.52
Wisconsin	15.1	+ 0.4	Merrill	49	1	Hillsboro	−38	7	1.39	+ 0.12	Dodgeville	3.03	Superior	0.31
Wyoming	18.0	− 2.1	Soldiers Home	66	24	Lovell	−37	3	1.03	− 0.16	Snake River Y. N. P	5.40	Powell	0.03

*Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. †Other dates also.

TABLE 1.—*Climatological data for U. S. Weather Bureau stations, January, 1910.*

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.									Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
New England.							**33.5**	**+ 4.0**										**73**	**4.65**	**+ 1.2**									**6.6**	
Eastport	76	67	85	29.98	30.07	+ .07	27.7	+ 7.6	53	22	34	−10	4	21	41	25	22	81	3.80	0.0	14	10,397	w.	56	se.	22	7	5	19	7.4	7.2
Greenville	1,070	6	.....	28.86	30.08	.....	18.5	.....	47	22	28	−18	4	9	35	.....	.....	.....	3.43	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	15.0
Portland, Me.	103	81	117	29.96	30.09	+ .04	27.8	+ 5.8	49	2	34	− 4	5	21	29	25	20	75	2.90	− 0.9	11	7,091	n.	43	se.	22	10	8	13	5.6	5.0
Concord	288	70	79	29.77	30.10	+ .05	25.7	+ 4.5	50	22	34	−10	5	17	44	.....	.....	.....	4.10	+ 0.8	13	4,190	nw.	35	nw.	4	7	10	14	6.4	9.1
Burlington	404	11	48	29.65	30.12	+ .07	20.5	+ 4.2	50	22	28	−17	5	13	47	.....	.....	.....	2.70	+ 0.9	19	10,213	s.	54	s.	5	4	10	17	7.2	16.9
Northfield	876	16	70	29.11	30.11	+ .06	17.9	+ 2.8	49	22	28	−26	25	8	47	16	15	89	2.80	+ 0.3	14	5,685	s.	44	s.	23	4	10	17	7.0	17.3
Boston	125	115	188	29.95	30.09	+ .04	32.0	+ 5.0	57	22	39	− 3	4	25	30	29	25	76	4.25	+ 0.4	15	8,588	w.	42	se.	21	6	9	10	6.6	11.9
Nantucket	12	14	90	30.06	30.07	+ .03	34.5	+ 2.4	50	7	40	− 10	4	29	25	32	30	85	6.90	+ 3.5	17	13,499	w.	66	ne.	14	10	4	17	6.9	21.5
Block Island	26	11	46	30.06	30.09	+ .02	33.8	+ 2.4	48	22	39	− 4	5	29	40	31	28	81	4.86	+ 1.0	18	13,094	nw.	73	ne.	14	11	3	17	6.1	8.8
Narragansett		9					31.7	+ 3.3	48	19	39	− 1	5	24	39	.....	.....	.....	5.57	.....	15	.....	sw.	.....	.....	.....	12	5	14	.....	11.0
Providence	160	141	165	29.92	30.10	+ .04	31.4	+ 4.2	56	22	39	− 5	5	24	45	28	23	75	4.85	+ 0.5	17	7,866	nw.	52	se.	22	9	6	16	6.5	15.7
Hartford	159	122	140	29.92	30.10	+ .03	28.6	+ 3.1	55	22	36	− 6	5	21	30	26	21	73	6.68	+ 2.8	15	6,008	n.	48	nw.	4	9	5	17	6.5	14.6
New Haven	106	116	155	29.97	30.10	+ .02	30.6	+ 3.3	51	22	38	− 3	5	23	30	27	21	70	7.28	+ 3.4	16	7,703	n.	45	s.	21	8	8	15	6.2	11.5
Mid. Atlantic States.							**32.6**	**+ 1.3**										**76**	**4.15**	**+ 0.7**									**6.8**	
Albany	97	102	115	30.01	30.13	+ .06	25.2	+ 2.7	52	22	33	− 8	5	18	42	22	19	79	4.13	+ 1.5	16	6,432	nw.	37	s.	22	8	7	16	6.7	1.4
Binghamton	871	78	88	29.14	30.10	+ .02	24.2	+ 1.1	50	22	33	− 7	17	15	41	.....	.....	.....	5.12	+ 3.1	17	4,933	w.	35	s.	22	6	3	22	7.7	29.6
New York	314	108	350	29.75	30.10	.00	32.4	+ 2.2	51	21	39	39	5	26	31	30	26	77	5.61	+ 1.8	14	9,163	nw.	56	w.	29	7	10	14	6.5	16.6
Harrisburg	374	94	104	29.72	30.14	+ .04	29.4	+ 0.7	47	21	36	9	17	23	23	26	22	74	3.91	+ 1.1	13	5,367	e.	34	sw.	22	8	4	19	6.9	21.5
Philadelphia	117	116	184	30.00	30.14	+ .03	33.6	+ 1.8	55	21	40	9	5	27	23	30	25	74	4.23	+ 0.8	14	8,143	nw.	40	se.	21	8	6	17	6.4	9.2
Scranton	805	111	119	29.22	30.11	+ .02	27.4	+ 1.9	50	21	35	− 1	4	30	38	24	20	75	4.32	+ 1.5	20	5,523	sw.	40	se.	22	4	6	21	7.6	18.6
Atlantic City	52	37	48	30.07	30.13	+ .02	33.9	+ 1.4	49	2	40	12	4	27	28	31	27	79	4.64	+ 1.2	17	7,126	nw.	36	se.	21	7	7	17	6.8	0.5
Cape May	17	9	56	30.12	30.15	+ .03	33.4	− 0.7	47	3	39	12	5	28	28	31	28	83	4.64	− 1.3	19	7,592	nw.	40	se.	21	6	10	15	6.5	0.3
Baltimore	123	100	113	30.00	30.14	+ .02	34.0	− 0.4	58	18	40	13	5	28	23	30	25	72	4.68	+ 1.5	12	5,282	nw.	29	sw.	22	8	6	17	6.5	12.8
Washington	112	62	85	30.00	30.13	.00	33.7	+ 0.8	58	18	41	11	1	26	29	29	24	73	4.39	+ 1.0	13	5,487	nw.	37	nw.	9	7	6	18	6.6	5.8
Cape Henry	18	9	58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lynchburg	681	83	88	29.38	30.14	+ .01	37.2	+ 1.4	71	3	46	14	11	28	32	32	28	75	3.44	− 0.3	13	3,508	nw.	25	nw.	9	7	9	15	6.3	3.5
Mount Weather	1,725	10	54	28.20	30.11	− .02	29.8	+ 2.5	61	3	36	10	4	23	34	26	22	79	4.53	+ 1.2	14	12,328	nw.	62	nw.	7	9	5	17	6.6	23.3
Norfolk	91	102	111	30.05	30.15	+ .02	41.6	+ 1.2	69	3	50	24	4	33	37	36	31	70	2.53	− 0.8	13	7,984	s.	39	sw.	7	9	12	10	5.6	T.
Richmond	144	189	197	29.99	30.15	+ .02	39.0	+ 1.0	70	3	48	20	11	31	30	.....	.....	.....	3.38	+ 0.4	12	6,882	s.	35	se.	21	5	15	11	6.5	1.8
Wytheville	2,293	40	47	27.68	30.15	+ .01	34.2	+ 1.2	60	6	43	13	8	25	33	30	27	84	2.72	− 1.6	9	4,994	w.	27	w.	27	9	4	18	6.5	4.6
S. Atlantic States.							**45.7**	**+ 0.6**										**74**	**2.34**	**− 1.5**									**5.2**	
Asheville	2,255	53	75	27.74	30.19	+ .04	36.4	+ 1.0	67	2	47	11	8	26	34	32	29	79	2.42	− 2.2	6	6,878	nw.	31	nw.	7	13	7	11	5.3	2.5
Charlotte	773	68	76	29.31	30.17	+ .02	41.6	+ 1.2	71	3	51	22	8	32	39	36	32	73	3.36	− 0.9	11	6,097	sw.	30	sw.	18	14	4	13	5.4	3.0
Hatteras	11	12	47	30.14	30.15	+ .01	46.6	+ 0.8	66	6	54	29	10	39	27	43	41	86	2.35	− 2.6	8	12,146	sw.	58	s.	29	13	5	13	5.5	
Manteo	12	12	46	.....	.....	.....	42.5	.....	68	8	53	20	1	32	.....	.....	.....	.....	2.94	− 1.7	7	.....	n.	.....	.....	.....	15	8	8	.....	.....
Raleigh	376	103	110	29.74	30.16	+ .03	42.0	+ 1.6	71	3	52	22	11	32	37	36	29	65	4.05	+ 0.5	12	7,089	sw.	42	w.	7	13	7	11	5.0	0.7
Wilmington	78	81	91	30.10	30.19	+ .05	47.0	+ 1.4	71	6	57	22	11	37	33	40	34	68	1.07	− 2.4	6	7,136	sw.	38	s.	21	12	13	6	4.4	
Charleston	48	14	92	30.14	30.19	+ .04	49.0	− 0.3	74	3	58	29	22	40	27	44	40	80	1.39	− 2.1	7	8,520	sw.	39	s.	28	11	13	7	4.7	
Columbia, S. C.	351	41	57	29.79	30.18	+ .03	45.3	+ 0.2	75	3	55	20	11	36	40	38	31	65	2.81	− 0.5	10	6,373	sw.	42	sw.	18	7	13	11	6.2	T.
Augusta	180	89	97	29.99	30.19	+ .03	46.6	+ 0.7	75	6	58	22	11	36	39	40	35	72	3.23	− 0.9	9	5,781	w.	36	nw.	18	11	8	12	5.2	T.
Savannah	65	150	194	30.14	30.22	+ .07	49.9	0.0	72	6	60	29	22	40	30	43	38	70	1.03	− 2.1	7	10,568	w.	42	w.	21	13	11	7	5.0	0.2
Jacksonville	43	96	129	30.16	30.21	+ .06	53.0	− 0.9	74	4	63	34	22	43	27	47	44	81	1.06	− 2.1	9	7,581	sw.	54	sw.	28	11	12	8	5.0	
Florida Peninsula.							**63.5**	**0.0**										**79**	**0.96**	**− 1.8**									**4.6**	
Jupiter	28	10	46	30.14	30.17	+ .07	64.5	+ 0.2	82	7	72	40	22	56	27	58	55	79	1.47	− 2.1	10	9,027	nw.	44	w.	21	5	17	9	5.7	
Key West	22	10	53	30.13	30.15	+ .05	67.7	− 1.1	80	7	73	55	1	63	15	62	59	80	0.62	− 1.4	5	7,602	ne.	42	sw.	28	17	12	2	3.5	
Sand Key	25	41	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tampa	35	79	96	30.17	30.21	+ .09	58.4	+ 1.0	75	4	68	37	23	49	27	52	48	78	0.81	− 2.0	5	5,758	ne.	30	w.	21	11	13	7	4.5	
East Gulf States.							**45.7**	**+ 1.3**										**72**	**3.16**	**− 1.3**									**4.8**	
Atlanta	1,174	190	216	28.93	30.20	+ .05	42.4	+ 0.2	67	3	51	18	7	34	39	37	32	71	3.49	− 1.8	9	10,698	w.	40	nw.	21	10	4	17	6.4	0.3
Macon	370	78	87	29.80	30.00	− .16	46.0	+ 0.4	73	6	57	23	8	35	35	.....	.....	.....	4.45	− 0.7	8	5,382	nw.	36	s.	6	16	6	9	4.6	T.
Thomasville	273	8	57	29.91	30.22	+ .06	50.6	− 0.4	76	3	63	25	8	38	35	44	40	79	3.22	− 0.9	6	4,812	s.	34	sw.	28	15	9	7	3.6	T.
Pensacola	56	140	183	30.15	30.21	+ .07	52.8	+ 0.5	72	18	60	28	8	45	35	.....	.....	.....	1.06	− 3.0	5	10,717	e.	44	nw.	21	16	8	7	3.8	
Anniston	741	9	57	29.40	30.22	+ .06	44.0	+ 1.8	72	3	54	16	7	33	39	.....	.....	.....	3.62	− 1.7	7	5,503	n.	29	se.	5	9	4	18	6.5	0.1
Birmingham	700	11	48	29.43	30.21	+ .05	45.6	+ 0.3	69	3	55	15	7	36	38	39	34	69	3.75	− 1.6	7	6,561	nw.	36	se.	5	9	9	13	5.7	T.
Mobile	57	98	106	30.14	30.20	+ .05	52.4	+ 2.6	74	18	62	26	7	43	35	46	41	73	2.63	− 2.2	5	6,188	n.	34	nw.	28	15	11	5	3.7	
Montgomery	223	100	112	29.96	30.22	+ .06	48.1	+ 0.4	72	3	59	20	7	37	46	42	37	71	3.21	− 1.9	6	5,109	n.	36	nw.	18	10	11	10	5.1	T.
Meridian	375	84	93	29.79	30.20	+ .04	48.2	+ 3.2	71	26	59	18	7	37	34	41	36	69	2.84	− 2.7	7	4,772	nw.	30	nw.	21	12	9	10	5.0	T.
Vicksburg	247	62	74	29.92	30.20	+ .05	50.2	+ 3.2	72	26	60	21	7	40	37	44	37	66	3.85	− 1.8	8	6,069	se.	29	nw.	21	13	4	14	5.2	T.
New Orleans	51	90	121	30.14	30.20	+ .07	55.2	+ 2.2	76	5	64	27	7	46	37	49	45	78	2.68	− 2.0	7	6,853	s.	33	nw.	28	19	10	2	3.1	
West Gulf States.							**49.0**	**+ 3.5**										**69**	**1.38**	**− 1.6**									**4.4**	
Shreveport	249	77	84	29.92	30.21	+ .07	49.4	+ 3.2	78	1	60	20	7	29	31	43	38	69	2.67	− 1.8	10	5,732	se.	28	ne.	27	14	7	10	4.7	0.4
Bentonville	1,303	11	44	28.74	30.15	+ .01	37.4	+ 3.3	70	1	47	7	7	28	32	.....	.....	.....	1.34	− 1.3	7	5,357	nw.	26	sw.	25	16	4	11	4.8	0.4
Fort Smith	457	79	94	29.68	30.18	+ .04	41.7	+ 3.4	76	1	52	12	7	32	34	35	28	62	1.18	− 1.3	7	7,166	e.	36	sw.	26	15	7	9	4.5	0.2
Little Rock	357	139	147	29.80	30.19	+ .04	44.1	+ 3.5	75	1	53	10	7	35	32	38	30	61	2.76	− 2.0	6	7,975	nw.	40	sw.	26	15	4	9	4.5	6.1
Brownsville	57	4	.....	.....	.....	.....	63.2	.....	82	18	73	30	7	53	33	.....	.....	.....	0.35	.....	6	.....	s.	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi	20	69	77	30.15	30.17	+ .07	57.6	+ 4.1	78	26	65	30	7	50	29	53	49	80	0.83	− 1.4	4	9,095	se.	38	nw.	27	13	11	7	4.5	
Fort Worth	670	106	114	29.45	30.18	+ .06	48.2	+ 3.9	79	1	59	15	7	37	37	.....	.....	.....	1.36	+ 0.4	3	8,255	s.	40	nw.	27	14	10	7	4.5	5.0
Galveston	54	106	112	30.14	30.20	+ .07	55.2	+ 3.5	71	26	61	30	7	50	23	52	49	82	2.05	− 1.6	7	9,333	se.	46	w.	28	10	17	4	4.2	
Palestine	510	73	79	29.64	30.19	+ .07	50.8	+ 4.3	75	23	61	20	6	40	37	43	36	64	0.48	− 3.4	8	6,807	s.	42	nw.	27	15	8	8	4.4	T.
San Antonio	701	80	91	29.42	30.16	+ .06	54.9	+ 3.8	80	23	66	23	7	44	39	47	39	62	0.88	− 0.8	4	5,505	se.	34	nw.	27	14	8	9	4.7	
Taylor	583	55	63	29.57	30.19	+ .08	50.8	+ 3.3	78	23	63	18	7	39	39	.....	.....	.....	0.20	− 2.6	4	7,484	n.	36	n.	20	20	5	6	3.4	T.
Ohio Val. and Tenn.							**54.2**	**+ 0.6**										**73**	**4.11**	**+ 2.0**									**7.1**	
Chattanooga	762	189	213	29.37	30.21	+ .05	40.8	+ 0.2	67	3	50	13	7	32	29	36	30	67	3.28	− 2.3	11	6,624	sw.	42	sw.	18	9	4	18	6.4	0.9
Knoxville	996	93	100	29.09	30.18	+ .03	38.2	+ 0.7	64	3	47	15	7	30	26	34	31	79	3.66	− 1.3	10	4,092	sw.	30	sw.	18	8	6	17	6.3	2.0
Memphis	399	76	97	29.78	30.22	+ .06	42.7	+ 2.4	69	1	51	12	7	34	35	37	31	67	3.69	− 1.5	5	7,570	nw.	54	sw.	18	14	4	13	5.1	8.0
Nashville	546	168	191	29.59	30.19	+ .03	39.4	+ 1.4	69	26	49	7	7	30	31	35	30	74	3.45	− 1.4	9	8,268	w.	40	nw.	21	11	5	15	6.2	1.7
Lexington	989	75	102	29.05	30.16	+ .03	32.0	− 1.0	60	26	40	4	7	24	34	.....	.....	.....	4.46	+ 0.6	15	9,312	s.	46	w.	26	5	8	18	7.7	12.8
Louisville	525	111	132	29.57	30.17	+ .03	34.0	− 0.3	64	26	42	4	7	26	30	31	26	74	3.25	− 0.6	14	6,820	s.	40	w.	26	7	7	17	7.0	10.3
Evansville	431	72	82	29.66	30.15	+ .01	33.8	+ 1.5	60	26	41	1	7	27	30	.....	.....	.....	2.59	− 1.1	11	6,342	s.	34	s.	17	10	7	14	6.6	9.3
Indianapolis	822	154	164	29.21	30.13	+ .01	28.9	+ 0.7	56	26	35	0	7	22	22	26	23	80	2.62	− 0.2	15	8,676	s.	50	w.	26	6	2	23	7.5	3.3
Cincinnati	628	152	160	29.45	30.15	+ .03	32.0	− 0.3	62	26	39	1	10	25	28	30	26	79	3.71	+ 0.4	16	5,700	se.	43	w.	26	4	7	20	7.6	14.0
Columbus	824	173	222	29.21	30.12	+ .01	28.2	− 0.4	52	26	35	− 3	10	22	25	26	23	81	5.11	+ 2.2	17	8,000	s.	36	w.	18	3	6	22	8.0	24.3
Pittsburg	842	336	352	29.18	30.11	.00	30.8	+ 0.1	51	20	38	7	4	24	26	28	25	81	5.33	+ 2.5	16	8,085	w.	46	w.	18	1	9	21	8.4	22.3
Parkersburg	638	77	84	29.47	30.15	+ .03	32.0	+ 0.7	56	20	39	1	10	25	31	29	27	84	6.53	+ 3.3	16	4,914	s.	34	w.	27	3	5	23	8.4	18.0
Elkins	1,940	41	50	28.01	30.16	+ .04	31.3	+ 2.3	61	20	41	4	8	22	36	28	27	91	5.77	+ 2.4	18	3,204	w.	24	w.	27	4	5	22	7.7	17.4
Lower Lake Region.							**25.4**	**+ 1.3**										**82**	**3.66**	**+ 1.0**									**3.4**	
Buffalo	767	178	206	29.20	30.06	− .01	26.2	+ 1.5	48	20	32	1	4	20	36	25	22	84	6.41	+ 3.1	21	11,322	sw.	56	sw.	18	0	5	26	9.0	42.6
Canton	448	10	71	29.60	30.10	.....	30.5	+ 4.2	52	22	29	−14	4	12	53	.....	.....	.....	1.83	− 1.3	16	9,245	sw.	52	se.	22	5	8	18	7.1	14.4
Oswego	335	76	91	29.70	30.08	+ .01	24.8	+ 0.9	47	22	32	−12	4	18	47	24	22	85	4.07	+ 0.9	21	9,290	s.	44	nw.	3	0	4	27	8.9	27.1
Rochester	523	86	102	29.50	30.09	+ .02	25.8	+ 1.8	45	22	32	− 1	5	20	38	24	20	77	3.01	− 0.1	16	6,775	w.	41	sw.	23	0	9	22	8.7	22.0
Syracuse	597	97	113	29.43	30.10	+ .03	25.1	+ 2.1	51	21	32	−11	4	18	48	.....	.....	.....	2.47	+ 0.3	16	9,642	s.	58	s.	5	2	9	22	8.1	23.8
Erie	714	92	102	29.27	30.07	− .01	27.0	+ 0.5	48	20	33	7	8	21	25	25	23	83	4.00	+ 1.0	18	8,939	s.	48	se.	5	1	4	26	8.9	31.8
Cleveland	762	190	201	29.23	30.08	− .01	26.6	+ 0.4	46	26	32	4	8	21	21	25	22	84	4.29	+ 1.8	23	11,839	s.	54	se.	5	1	5	25	8.8	28.0
Sandusky	629	62	70	29.36	30.07	− .02	26.4	+ 0.1	47	20	32	6	4	21	23	.....	.....	.....	3.84	+ 1.7	16	6,717	sw.	34	nw.	3	3	7	21	7.9	28.5
Toledo	628	207	246	29.39	30.09	.00	26.7	+ 1.1	48	26	32	3	4	21	20	25	22	82	3.76	+ 1.8	15	12,244	sw.	45	sw.	26	6	5	20	7.7	21.0
Detroit	730	218	258	29.26	30.08	.00	25.0	+ 0.7	43	26	30	2	4	20	22	24	21	83	3.14	+ 1.2	15	11,952	nw.	46	w.	3	1	8	22	8.6	22.2

TABLE I.—*Climatological data for U. S. Weather Bureau stations, January, 1910*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
Upper Lake Region.							**30.0**	**+ 2.1**											**84**	**1.24**	**− 0.2**								**7.5**	
Alpena	609	13	92	29.36	30.06	+ .02	21.6	+ 2.9	39	1	28	− 5	10	15	26	19	16	83	1.56	− 0.6	11	8,864	sw.	56	se.	5	3	9	19	7.5	18.0
Escanaba	612	40	82	29.38	30.08	+ .03	17.4	+ 2.9	37	1	26	− 9	7	9	28	16	12	81	1.52	0.0	13	7,094	nw.	32	se.	5	7	8	16	6.4	15.2
Grand Haven	632	54	92	29.36	30.07	.00	24.2	− 0.3	40	26	30	1	4	18	25	23	21	87	2.41	− 0.4	21	9,636	se.	39	sw.	5	1	8	22	8.0	26.6
Grand Rapids	707	127	162	29.28	30.08	+ .02	24.4	+ 0.6	45	20	30	2	4	19	21	23	21	88	2.04	− 0.7	14	8,837	s.	40	sw.	5	2	3	26	8.6	10.3
Houghton	668	66	74	29.29	30.05	.00	17.4	+ 2.9	36	15	25	− 7	9	10	41	...	...	...	1.82	− 0.2	18	4,367	nw.	26	nw.	21	1	8	22	8.4	28.1
Marquette	734	77	116	29.23	30.07	+ .03	20.0	+ 4.1	42	1	26	− 3	3	14	27	18	15	83	2.03	0.0	13	8,875	w.	46	nw.	21	2	10	18	7.4	24.3
Port Huron	638	70	120	29.34	30.04	− .02	23.6	+ 1.8	41	20	29	0	4	18	25	22	20	85	1.99	+ 0.1	16	9,427	nw.	48	nw.	22	3	5	23	8.4	14.8
Sault Sainte Marie	614	11	61	29.34	30.07	+ .04	15.8	+ 2.5	35	20	24	−15	10	8	34	15	12	85	1.15	− 1.0	15	6,343	e.	44	w.	1	1	9	21	8.3	10.1
Chicago	823	140	310	29.17	30.10	.00	25.6	+ 1.9	46	26	32	− 5	7	20	27	24	20	79	3.07	+ 1.1	13	11,684	w.	48	w.	26	5	6	20	7.5	14.9
Milwaukee	681	122	139	29.33	30.10	+ .02	21.1	+ 1.3	40	20	28	−10	7	15	29	20	17	83	2.71	+ 0.7	11	9,161	w.	55	sc.	4	9	8	14	6.3	24.4
Green Bay	617	49	86	29.38	30.08	+ .02	16.1	+ 1.5	40	20	24	−18	7	8	32	15	12	79	1.02	− 0.7	12	7,581	sw.	40	n.	21	4	11	16	7.2	11.7
Duluth	1,133	11	47	28.80	30.09	.00	13.4	+ 3.0	33	19	21	−17	3	6	30	12	11	90	0.80	− 0.2	6	9,650	sw.	52	nw.	20	6	12	13	6.2	7.8
North Dakota.							**9.7**	**+ 5.6**											**90**	**0.38**	**− 0.2**								**5.8**	
Moorhead	940	8	57	29.06	30.13	− .01	9.8	+ 7.1	36	19	19	−25	4	1	35	9	8	93	0.52	− 0.2	7	6,168	nw.	31	nw.	1	11	10	10	5.2	5.9
Bismarck	1,674	8	57	28.26	30.15	+ .02	9.4	+ 2.7	45	31	21	−24	3	− 2	47	8	6	88	0.57	0.0	6	6,019	nw.	40	s.	14	11	9	11	5.5	6.8
Devils Lake	1,482	11	44	28.42	30.08	− .04	8.6	+ 8.3	38	19	17	−26	3	0	33	7	6	92	0.10	− 0.5	3	7,347	w.	48	nw.	1	7	11	13	6.0	1.0
Williston	1,872	14	56	27.99	30.07	− .04	11.0	+ 4.5	41	22	22	−18	12	0	46	10	8	89	0.27	− 0.3	5	5,461	sw.	44	w.	19	6	13	12	6.3	2.7
Upper Miss. Valley.							**22.7**	**+ 1.2**											**81**	**1.90**	**+ 0.2**								**6.2**	
Minneapolis	918	102	208	...	...	...	15.4	...	39	19	23	−18	4	8	29	...	...	...	1.08	+ 0.4	8	8,393	s.	46	w.	20	7	13	11	5.8	14.1
St. Paul	837	171	179	29.15	30.10	− .01	14.4	+ 2.8	38	19	23	−17	6	6	30	14	10	81	1.10	+ 0.2	8	7,216	nw.	44	nw.	20	7	10	14	5.9	12.4
La Crosse	714	11	48	29.29	30.10	− .01	15.9	+ 0.7	41	19	26	−21	7	6	32	...	...	...	1.33	+ 0.2	8	4,100	s.	21	nw.	20	8	5	18	6.6	17.5
Madison	974	70	78	28.98	30.08	− .02	17.1	+ 0.6	39	20	25	−18	7	9	36	16	13	81	2.82	+ 1.3	9	8,021	nw.	45	ne.	13	8	6	17	6.6	28.2
Charles City	1,015	10	49	28.99	30.12	− .02	11.8	+ 0.4	41	19	22	−32	6	1	36	12	11	94	1.75	+ 0.8	7	5,453	nw.	29	nw.	20	5	6	20	6.9	26.2
Davenport	606	71	79	29.43	30.12	.00	21.2	+ 0.4	45	19	29	−13	6	14	34	20	18	86	1.69	+ 0.1	9	6,025	nw.	31	w.	26	10	4	17	6.3	7.5
Des Moines	861	84	101	29.16	30.11	− .03	20.5	+ 0.1	48	19	29	−14	7	12	34	19	17	86	1.72	+ 0.5	6	6,116	nw.	32	nw.	20	10	6	15	6.3	12.3
Dubuque	698	100	115	29.35	30.14	+ .02	18.4	+ 0.1	44	20	27	−25	7	10	41	18	15	85	2.45	+ 1.0	9	4,834	nw.	24	nw.	20	9	6	16	6.4	22.1
Keokuk	614	64	78	29.44	30.15	+ .01	27.0	+ 3.3	52	19	34	− 8	6	20	31	24	20	78	1.61	− 0.1	7	6,114	nw.	38	w.	26	9	11	11	5.6	1.2
Cairo	356	87	93	29.79	30.19	+ .03	36.3	+ 1.5	64	1	44	6	7	29	26	32	27	72	2.63	− 1.2	9	7,771	s.	48	sw.	26	10	5	16	6.3	7.7
La Salle	536	56	64	29.53	30.13	+ .02	22.2	− 0.1	44	26	30	−11	6	15	34	...	...	...	1.93	− 0.2	12	6,437	w.	34	w.	26	9	6	16	6.2	3.2
Peoria	609	11	45	29.44	30.14	+ .02	24.4	+ 1.3	45	19	32	− 8	6	17	30	22	19	80	1.97	− 0.2	11	6,830	nw.	42	w.	26	11	7	13	5.8	2.3
Springfield, Ill.	644	10	91	29.41	30.12	− .01	28.0	+ 1.7	49	19	34	− 1	6	22	26	26	22	79	1.68	− 0.6	8	7,586	nw.	33	nw.	20	11	7	13	5.7	2.4
Hannibal	534	75	109	29.54	30.14	+ .01	28.6	+ 1.9	54	19	36	− 2	6	21	31	...	...	...	1.98	− 0.2	9	7,300	nw.	44	w.	26	11	6	14	5.8	3.4
St. Louis	567	208	317	29.51	30.13	− .01	32.6	+ 1.6	61	1	40	3	6	25	25	29	24	74	2.73	+ 0.5	8	8,865	nw.	50	w.	26	7	9	15	6.5	1.0
Missouri Valley.							**33.6**	**+ 2.5**											**81**	**1.41**	**+ 0.4**								**5.5**	
Columbia, Mo.	784	11	84	29.27	30.13	.00	30.2	+ 3.0	62	25	39	0	6	22	30	...	...	...	2.36	+ 0.1	9	7,156	e.	40	w.	20	12	8	11	5.1	3.5
Kansas City	963	161	181	29.06	30.14	− .01	30.6	+ 4.4	64	25	38	− 4	6	23	25	27	23	75	2.06	+ 0.9	3	9,667	nw.	48	nw.	20	11	8	12	5.6	6.1
Springfield, Mo.	1,324	98	104	28.70	30.15	+ .01	34.4	+ 3.1	71	25	43	− 5	6	26	33	30	26	75	0.98	− 1.7	5	9,048	nw.	40	w.	26	16	0	15	5.2	0.6
Iola	984	11	50	29.08	30.17	+ .03	32.2	+ 4.6	69	25	42	− 3	6	23	31	...	...	...	1.15	+ 0.2	4	6,148	nw.	30	nw.	20	13	7	11	5.1	2.5
Topeka	983	85	101	...	...	...	28.8	+ 3.2	63	25	37	− 5	6	21	27	...	...	...	2.42	+ 1.5	4	7,515	nw.	42	nw.	26	13	7	11	4.8	6.4
Lincoln	1,189	11	84	28.82	30.15	.00	21.8	+ 0.6	46	25	30	−13	5	14	33	20	17	82	1.15	+ 0.5	4	7,601	s.	46	nw.	20	10	3	18	6.4	10.3
Omaha	1,105	115	121	28.91	30.15	.00	22.4	+ 1.9	48	19	29	−10	5	16	25	21	19	86	0.94	+ 0.3	7	6,539	nw.	39	nw.	26	7	11	13	5.8	6.9
Valentine	2,598	47	54	27.31	30.15	+ .03	19.6	+ 1.4	49	25	30	−25	4	9	45	18	15	81	1.61	+ 1.1	7	7,269	w.	44	nw.	26	10	20	1	4.0	18.0
Sioux City	1,135	96	164	28.87	30.15	.00	18.2	+ 2.6	42	22	26	−17	6	10	36	17	15	85	0.69	+ 0.1	4	8,870	nw.	55	nw.	20	4	12	15	6.6	9.6
Pierre	1,572	70	75	28.40	30.16	+ .03	16.0	+ 2.1	47	31	26	−13	5	7	34	14	9	73	0.94	+ 0.5	6	6,108	nw.	43	nw.	19	14	12	5	4.5	13.1
Huron	1,306	56	67	28.69	30.17	+ .01	11.2	+ 1.7	38	22	21	−29	6	2	33	10	9	90	1.49	+ 1.0	9	8,085	nw.	39	nw.	20	10	9	12	5.9	19.9
Yankton	1,233	49	57	28.74	30.13	− .03	17.4	+ 1.9	49	19	26	−16	5	28	39	...	...	...	1.16	+ 0.6	5	6,200	nw.	38	nw.	20	3	17	11	6.6	15.0
Northern Slope.							**30.5**	**+ 1.8**											**76**	**0.94**	**+ 0.1**								**5.4**	
Havre	2,505	11	44	27.29	30.03	− .07	22.4	+ 8.9	52	22	32	− 8	3	13	42	20	18	84	0.44	− 0.2	5	8,368	sw.	40	w.	19	9	11	11	6.2	3.2
Miles City	2,371	26	48	27.43	30.14	+ .02	19.9	+ 5.4	52	22	29	−21	3	10	30	18	15	84	0.94	+ 0.3	9	4,063	s.	36	w.	19	14	10	7	4.5	9.3
Helena	4,110	8	56	25.77	30.14	− .01	19.4	− 0.6	53	31	28	−21	3	11	37	17	12	74	0.89	− 0.1	7	4,831	w.	35	w.	19	8	11	12	5.6	12.8
Kalispell	2,962	11	34	26.94	30.11	− .01	22.5	+ 2.9	49	22	30	− 8	3	15	30	20	17	80	0.78	− 0.8	12	3,179	nw.	24	w.	19	2	13	16	7.4	3.8
Rapid City	3,234	46	50	26.59	30.15	+ .05	26.2	+ 4.7	61	24	37	−16	2	15	47	21	15	67	0.89	+ 0.4	11	5,081	w.	33	w.	24	10	17	4	4.5	9.0
Cheyenne	6,088	56	64	23.94	30.11	+ .06	26.8	+ 1.2	58	24	37	−10	3	16	45	21	13	59	0.29	− 0.1	5	10,198	nw.	60	w.	26	9	14	8	5.3	2.9
Lander	5,372	26	36	24.63	30.27	+ .15	11.8	− 5.6	50	24	26	−32	3	− 2	38	9	5	79	2.06	+ 1.6	6	2,308	n.	25	sw.	16	11	15	5	4.6	20.6
Sheridan	3,790	9	47	26.07	30.14	...	19.4	...	55	24	32	−27	3	7	44	16	11	75	0.31	.....	3	4,284	nw.	46	nw.	28	9	17	5	4.4	6.7
Yellowstone Park	6,200	11	48	23.84	30.23	+ .09	15.8	− 1.8	42	24	24	−15	6	8	29	14	10	80	1.90	− 0.3	16	6,787	s.	36	s.	24	3	8	20	7.4	22.0
North Platte	2,821	11	51	27.13	30.19	+ .07	22.2	+ 0.8	57	31	33	− 9	5	12	36	19	16	82	0.34	− 0.1	5	5,683	w.	35	nw.	29	13	10	8	4.5	3.9
Middle Slope.							**32.1**	**+ 3.1**											**70**	**0.42**	**− 0.2**								**4.6**	
Denver	5,291	129	136	24.70	30.10	+ .05	31.6	+ 2.5	64	24	43	− 7	5	20	40	25	16	58	0.16	− 0.3	2	4,939	sw.	45	w.	25	14	14	3	4.3	2.3
Leadville	10,242	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pueblo	4,685	80	86	25.29	30.10	+ .05	32.2	+ 3.1	68	24	45	− 8	6	20	43	26	19	64	0.13	− 0.2	2	5,700	nw.	48	nw.	25	16	12	3	3.3	2.3
Concordia	1,398	42	50	28.63	30.16	+ .02	25.5	+ 1.1	54	25	34	−10	6	17	29	23	19	79	0.59	− 0.1	5	4,981	nw.	28	nw.	20	6	16	9	5.6	5.4
Dodge City	2,509	11	51	27.46	30.17	+ .06	31.1	+ 3.8	71	25	42	− 7	6	21	38	26	20	70	0.26	− 0.2	3	7,879	w.	36	nw.	29	13	8	10	4.5	2.4
Wichita	1,358	98	121	28.71	30.19	+ .06	33.0	+ 3.3	68	25	42	− 1	6	24	31	29	24	73	0.55	− 0.2	3	8,525	nw.	40	nw.	20	13	8	10	5.2	0.8
Oklahoma	1,214	10	47	28.85	30.17	+ .06	39.3	+ 4.6	75	25	49	11	5	30	36	34	29	73	0.89	− 0.4	5	12,431	s.	50	n.	20	12	10	9	4.8	T.
Southern Slope.							**45.6**	**+ 4.2**											**61**	**0.14**	**− 0.3**								**4.8**	
Abilene	1,738	10	52	28.32	30.17	+ .08	47.7	+ 5.1	82	1	60	17	6	36	37	38	29	59	0.37	− 0.5	3	8,234	s.	39	nw.	27	14	5	12	4.8	T.
Amarillo	3,676	10	49	26.32	30.12	+ .06	39.7	+ 5.8	76	1	53	9	5	26	40	32	24	64	0.05	− 0.6	3	8,483	sw.	39	n.	27	10	15	6	4.9	0.3
Del Rio	944	8	57	29.15	30.16	+ .10	52.7	+ 2.5	84	23	66	20	7	40	50	...	...	...	0.03	− 1.6	2	5,803	se.	42	n.	27	15	7	9	4.7	
Roswell	3,578	9	57	26.44	30.15	+ .11	42.4	+ 3.2	80	1	58	2	6	26	49	33	24	59	0.10	− 0.4	3	4,741	s.	46	nw.	27	14	8	9	4.9	0.7
Southern Plateau.							**40.5**	**− 0.2**											**60**	**0.82**	**− 0.1**								**3.4**	
El Paso	3,762	110	133	26.28	30.10	+ .09	46.6	+ 2.5	77	1	59	13	7	35	36	36	21	41	0.21	− 0.3	2	7,394	nw.	43	w.	4	13	14	4	3.7	
Santa Fe	7,013	8	56	23.26	30.17	+ .13	30.0	+ 1.5	56	24	40	− 7	6	20	33	24	17	63	0.76	+ 0.2	9	6,919	nc.	38	sw.	25	18	9	4	3.2	2.4
Flagstaff	6,907	8	57	23.36	30.12	+ .07	26.6	− 0.1	59	22	40	−22	5	14	50	22	17	74	3.17	+ 1.1	8	5,035	sw.	48	sw.	1	15	3	13	4.5	8.1
Phoenix	1,108	50	56	28.92	30.10	+ .07	51.2	+ 1.2	77	21	64	23	6	38	43	45	39	68	0.50	− 0.7	5	2,595	e.	20	sw.	1	17	9	5	3.4	
Yuma	141	9	58	29.97	30.12	+ .07	53.0	− 1.7	81	31	66	25	4	40	38	42	27	41	0.02	− 0.4	1	5,365	n.	35	sw.	1	25	5	1	1.7	
Brawley	†105	11	31	30.24	30.13	...	50.5	...	79	31	65	24	6	36	44	...	...	...	0.15	.....	2	3,316	nw.	39	sw.	1	14	10	7	3.9	
Independence	3,910	11	42	26.05	30.12	+ .05	35.6	− 4.9	60	23	47	10	5	24	34	31	25	76	0.25	− 0.7	2	4,850	nw.	48	s.	1	19	9	3	3.2	2.5
Middle Plateau.							**34.2**	**− 3.6**											**78**	**0.36**	**− 0.2**								**5.4**	
Reno	4,332	56	63	25.50	30.20	+ .07	24.8	− 7.7	54	23	35	− 6	5	13	39	23	19	78	0.98	− 1.0	9	2,790	w.	32	sw.	23	9	13	9	5.6	12.9
Tonopah	6,090	12	20	24.06	30.16	...	26.4	...	49	23	33	− 2	5	20	25	23	18	70	0.55	− 0.2	6	7,690	se.	43	se.	14	13	15	3	4.5	7.9
Winnemucca	4,344	18	56	25.68	30.24	+ .08	20.0	− 8.8	47	23	32	−15	5	8	36	19	18	95	0.76	− 0.3	9	4,406	ne.	28	sw.	23	4	14	13	6.4	8.2
Modena	5,479	10	43	24.65	30.16	+ .06	25.4	− 2.1	56	23	37	−19	6	14	37	22	19	80	1.51	+ 0.8	7	6,501	w.	58	sw.	1	10	11	10	5.0	8.3
Salt Lake City	4,360	147	189	25.69	30.18	+ .03	28.5	− 0.3	56	23	36	1	5	21	27	25	21	74	0.99	− 0.4	10	4,912	nw.	48	s.	1	6	10	15	6.8	14.3
Durango	6,546	18	56	23.69	30.22	+ .17	24.0	− 0.5	52	24	36	−14	6	12	37	20	16	75	1.53	+ 0.2	9	2,698	nw.	28	w.	25	14	9	8	4.5	4.2
Grand Junction	4,608	43	51	25.50	30.22	+ .15	22.8	− 1.9	52	1	34	−10	8	12	32	19	16	77	0.38	− 0.2	7	2,805	nw.	31	s.	2	11	10	10	5.1	7.5
Northern Plateau.							**27.1**	**− 2.7**											**77**	**1.56**	**− 0.1**								**7.7**	
Baker City	3,471	48	58	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Boise	2,739	78	86	27.30	30.27	+ .08	34.2	− 5.1	51	31	32	− 8	4	17	35	22	19	79	1.55	− 0.3	18	3,420	nw.	30	se.	14	2	8	21	8.2	17.6
Lewiston	757	10	51	29.32	30.16	.00	31.2	− 3.3	55	22	38	0	3	25	25	...	...	...	1.11	− 0.5	9	5,294	e.	40	w.	19	1	13	17	7.3	3.0
Pocatello	4,477	46	54	25.54	30.24	+ .04	20.7	− 4.4	54	23	30	−15	6	12	34	19	14	71	1.46	+ 0.8	9	6,061	se.	40	sw.	25	3	12	16	7.0	11.5
Spokane	1,929	101	110	28.02	30.13	+ .01	28.2	+ 1.5	48	22	34	3	6	23	18	26	23	79	1.28	− 1.0	16	5,064	s.	36	sw.	18	3	5	23	8.2	4.9
Walla Walla	1,000	71	79	29.04	30.15	.00	31.2	− 2.0	61	23	38	7	3	24	40	28	25	78	2.42	+ 0.4	14	4,538	s.	35	se.	14	4	4	23	7.9	8.2
N. Pac. Coast Reg.							**32.5**	**− 1.0**											**84**	**7.33**	**+ 0.7**								**7.8**	
Blaine	58	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**6.23**	...	...	...	...	...	...	...	...	...	...
North Head	211	11	56	29.76	30.01	− .04	39.0	− 2.8	52	23	43	21	2	35	15	38	37	92	10.94	+ 4.3	25	16,606	e.	78	s.	17	5	0	26	8.3	0.1

TABLE I.—*Climatological data for U. S. Weather Bureau stations, January, 1910*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
N.P.Coast Reg.—Con.																															
Port Crescent	259	8	53	29.70	29.99	.00	36.2	+ 0.2	53	13	42	17	2	30	22					6.57	+ 1.0	21	4,439	s.	46	ne.	1	1	12	18	7.5	4.8
Seattle	123	185	224	29.91	30.05	.00	39.0	− 0.3	55	23	43	22	2	35	13	37	34	82		5.08	+ 0.6	22	7,874	se.	44	s.	18	4	7	20	7.8	2.5
Tacoma	213	113	120	29.80	30.03	− .01	38.6	+ 0.5	54	22	44	22	5	33	17	37	34	85		7.66	+ 1.9	22	5,056	sw.	36	ne.	1	4	5	22	7.7	0.6
Tatoosh Island	86	7	57	29.85	29.95	− .03	40.1	− 1.1	53	23	44	30	2	37	15	38	35	83		11.05	− 1.1	24	15,187	e.	66	s.	17	4	2	25	8.3	1.5
Portland, Oreg.	153	68	106	29.91	30.08	.00	37.6	− 1.5	53	23	42	21	5	33	18	36	32	80		6.26	− 0.2	22	5,167	s.	34	s.	17	2	5	24	8.4	2.1
Roseburg	510	9	57	29.53	30.09	− .01	39.2	− 1.6	63	30	46	16	3	32	27	37	34	83		3.78	− 1.9	18	2,230	s.	26	sw.	24	4	11	16	6.8	2.0
Mid. Pac. Coast Reg.							44.2	− 3.0											82	3.27	− 1.2									6.6	
Eureka	62	62	80	30.05	30.12	+ .02	44.6	− 2.3	65	22	50	28	4	39	26	42	39	81		7.26	− 0.4	22	5,655	se.	45	nw.	31	4	9	18	7.7	
Mount Tamalpais	2,375	11	18	27.63	30.15	+ .04	39.7	.....	62	30	44	27	2	35	23	37	34	84		2.96	− 1.4	16	12,096	se.	70	nw.	31	10	2	19	6.6	2.1
Point Reyes Light	490	7	18	29.59	30.11	.....	46.6	.....	65	23	51	35	2	42	15	.....	.....	.....		2.66	.....	19	13,192	nw.	83	nw.	31	8	10	13	6.4	
Red Bluff	332	50	56	29.80	30.17	+ .05	41.9	− 3.5	60	30	47	26	4	36	21	40	37	84		2.99	− 1.0	17	3,894	nw.	28	se.	23	5	7	19	7.3	1.2
Sacramento	69	106	117	30.10	30.17	+ .05	43.2	− 2.4	59	30	49	28	5	38	20	41	38	82		1.48	− 2.2	12	5,419	se.	36	se.	13	8	9	14	6.0	
San Francisco	155	200	204	30.00	30.17	+ .06	46.4	− 3.1	59	23	51	36	3	42	16	43	40	79		3.24	− 1.1	14	3,932	nw.	34	se.	13	7	8	16	6.4	
San Jose	141	12	110	30.02	30.17	.....	44.8	− 3.5	60	23	53	26	3	37	27	.....	.....	.....		2.31	− 0.6	12	3,561	se.	35	s.	23	7	9	15	6.4	
Southeast Farallon	30	9	17	30.13	30.16	.....	48.2	.....	56	23	51	39	2	45	11	.....	.....	.....		2.64	− 1.7	15	10,279	n.	60	n.	31	6	13	12	6.2	
S. Pac. Coast Reg.							49.8	− 1.0											69	2.06	− 0.7									5.1	
Fresno	330	67	70	29.82	30.19	+ .09	44.4	− 1.0	69	31	53	25	5	36	28	41	38	80		1.22	− 0.4	7	29,21	nw.	30	sw.	23	4	10	17	7.0	0.6
Los Angeles	338	159	191	29.76	30.12	+ .04	53.7	+ 0.6	81	22	63	33	5	45	30	45	36	56		1.53	− 1.3	6	4,837	ne.	26	sw.	1	13	11	7	4.0	
San Diego	87	94	102	30.03	30.12	+ .05	52.2	− 1.8	76	22	60	34	6	44	30	46	41	68		2.00	0.0	6	3,785	ne.	33	s.	1	19	6	6	3.3	
San Luis Obispo	201	47	54	29.95	30.18	+ .09	49.1	− 1.9	76	11	58	29	6	40	31	44	39	72		3.48	− 1.2	9	3,835	n.	24	s.	23	10	4	17	6.0	
West Indies.																															
Grand Turk	11	6	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
San Juan	82	48	90	29.94	30.03	+ .01	73.8	.....	83	23	79	65	29	69	14	68	66	77		5.68	+ 2.7	26	9,411	ne.	34	ne.	5	9	13	9	5.5	
Panama.																															
Christobal	17	5	60	.....	29.89	.....	77.5	.....	82	4	81	70	28	74	9	.....	.....	.....		2.94	− 1.0	18	10,137	n.	31	nw.	30	9	16	6	.....	
Culebra	172	4	30	.....	29.88	.....	76.7	.....	86	13	84	62	27	70	22	.....	.....	.....		1.31	− 0.6	13	6,557	nw.	30	n.	31	8	21	2	.....	
Ancon	92	6	69	.....	29.86	.....	78.9	.....	90	14	88	63	27	70	24	.....	.....	.....		1.22	+ 0.1	8	6,439	nw.	23	n.	21	0	27	4	.....	
Alhajuela	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Gatun	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

† Below sea level.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for storms in which the rate of fall equaled or exceeded 0.25 in any 5 minutes, or 0.80 inch in 1 hour, during January, 1910, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	12	.....	.....	0.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.11	.....	.....	.....
Albany, N. Y.	6	.....	.....	1.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Alpena, Mich.	4–5	.....	.....	0.55†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Amarillo, Tex.	4	.....	.....	0.03	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Annist on, Ala.	6	.....	.....	1.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.36	.....	.....	.....
Asheville, N. C.	6	.....	.....	0.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	.....	.....
Atlanta, Ga.	6	.....	.....	0.92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Atlantic, N. J.	7	.....	.....	0.89	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.36	.....	.....	.....
Augusta, Ga.	21	.....	.....	0.74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Baltimore Md.	13–14	.....	.....	1.07†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Bentonville' Ark.	17	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.11	.....	.....	.....
Binghamton, N. Y.	14	.....	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Birmingham, Ala.	20	.....	.....	0.88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.37	.....	.....	.....
Bismarck, N. Dak.	4	.....	.....	0.27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Block Island, R. I.	7	.....	.....	1.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	.....	.....	.....
Boise, Idaho	31–1	.....	.....	0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Boston, Mass.	6–7	.....	.....	1.29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Buffalo, N. Y.	17–18	.....	.....	1.07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Burlington, Vt.	5–6	.....	.....	1.04†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Cairo, Ill.	17–18	.....	.....	0.92†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Canton, N. Y.	29	.....	.....	0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Charles City, Iowa	4–5	.....	.....	0.88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Charleston, S. C.	5	.....	.....	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.18	.....	.....	.....
Charlotte, N. C.	21	.....	.....	1.17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	.....	.....
Chattanooga, Tenn.	18	.....	.....	0.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	.....	.....
Cheyenne, Wyo.	3–4	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Chicago, Ill.	4, 17	.....	.....	0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Cincinnati, Ohio	12–13	.....	.....	1.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Cleveland, Ohio	17–18	.....	.....	0.99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Columbia, Mo.	11–12	.....	.....	1.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Columbia, S. C.	28	.....	.....	1.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	.....	.....	.....
Columbus, Ohio	13	.....	.....	1.09	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.13	.....	.....	.....
Concord, N. H.	21–22	.....	.....	1.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Concordia, Kans.	3–4	.....	.....	0.49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Corpus Christi, Tex.	13	.....	.....	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	.....	.....	.....
Davenport, Iowa	12	.....	.....	0.77†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Del Rio, Tex.	5–6	.....	.....	0.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Denver, Colo.	3–4	.....	.....	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Des Moines, Iowa	4	.....	.....	0.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Detroit, Mich.	13–14	.....	.....	1.03	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Devils Lake, N. Dak.	4–5	.....	.....	0.09	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Dodge City, Kans.	3–4	.....	.....	0.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Dubuque, Iowa	4–5	.....	.....	0.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Duluth, Minn.	4–5	.....	.....	0.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Durango, Colo.	15–16	.....	.....	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Eastport, Me.	29–30	.....	.....	0.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Elkins, W. Va.	18	.....	.....	0.87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	.....	.....
El Paso, Tex.	11	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	.....	.....	.....
Erie, Pa.	21–22	.....	.....	1.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Escanaba, Mich.	4–5	.....	.....	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Eureka, Cal.	14			0.99														0.49			
Evansville, Ind.	5			0.86														0.17			
Flagstaff, Ariz.	1			2.08														*			
Fort Smith, Ark.	12-13			0.45														*			
Fort Worth, Tex.	13			0.49														0.24			
Fresno, Cal.	2			0.66														0.14			
Galveston, Tex.	5			1.51														*			
Grand Haven, Mich.	4-5			0.50														*			
Grand Junction, Colo.	3			0.18														*			
Grand Rapids, Mich.	13-14			0.68														*			
Green Bay, Wis.	4-5			0.37														*			
Hannibal, Mo.	12-13			0.88†														*			
Harrisburg, Pa.	21			0.40														0.14			
Hartford, Conn.	21-22			0.95														*			
Hatteras, N. C.	21	8:30 a. m.	8:50 p. m.	1.18	11:05 a. m.	11:35 a. m.	0.21	0.12	0.37												
Havre, Mont.	7, 31			0.12														*			
Helena, Mont.	1-2			0.49														*			
Houghton, Mich.	20-21			0.42														*			
Huron, S. Dak.	12-13			1.10														*			
Independence, Cal.	2			0.23														*			
Indianapolis, Ind.	12-13			0.89														*			
Iola, Kans.	3-4			0.61														*			
Jacksonville, Fla.	28			0.27														0.24			
Jupiter, Fla.	7-8			0.64														0.17			
Kalispell, Mont.	24			0.19														*			
Kansas City, Mo.	12			1.33														*			
Keokuk, Iowa	12			0.78														*			
Key West, Fla.	28	5:25 p. m.	5:58 p. m.	0.32	5:41 p. m.	5:51 p. m.	T.	0.26	0.31												
Knoxville, Tenn.	18			0.76														0.33			
La Crosse, Wis.	13			0.57														*			
Lander, Wyo.	1			1.72														*			
La Salle, Ill.	12-13			0.56														*			
Lewiston, Idaho	28			0.29														0.09			
Lexington, Ky.	5-6			1.20														*			
Lincoln, Nebr.	11-12			0.50														*			
Little Rock, Ark.	4			0.63														0.30			
Los Angeles, Cal.	1			0.72														0.50			
Louisville, Ky.	5-6			0.91														*			
Lynchburg, Va.	21			1.29														0.38			
Macon, Ga.	28			2.08														0.48			
Madison, Wis.	13			1.21														*			
Marquette, Mich.	20-21			0.64														*			
Memphis, Tenn.	5-6			1.97†														*			
Meridian, Miss.	20			0.74														0.45			
Milwaukee, Wis.	13			1.26†														*			
Minneapolis, Minn.	4			0.39														*			
Mobile, Ala.	27-28	D. N.	D. N.	1.18	11:49 p. m.	12:04 a. m.	0.03	0.26	0.40	0.50											
Modena, Utah	31-1‖			0.75														*			
Montgomery, Ala.	6			0.99														0.37			
Moorhead, Minn.	4-5			0.23														*			
Mount Tamalpas, Cal.	13			0.52														0.26			
Mount Weather, Va.	21-22			1.10†														*			
Nantucket, Mass.	22			0.87														0.37			
Nashville, Tenn.	18			0.89														0.38			
New Haven, Conn.	21-22			1.87														*			
New Orleans, La.	20	12:40 p. m.	12:50 p. m.	0.93	2:13 p. m.	2:31 p. m.	0.30	0.12	0.34	0.40	0.43										
New York, N. Y.	6			0.88														0.24			
Norfolk, Va.	28			0.42														0.31			
Northfield, Vt.	6-7			0.77†														*			
North Head, Wash.	6			1.44														0.33			
North Platte, Nebr.	3-4			0.28														*			
Oklahoma, Okla.	12			0.56														0.10			
Omaha, Nebr.	4			0.50														*			
Oswego, N. Y.	17-18			0.69														*			
Palestine, Tex.	5			0.16														0.13			
Parkersburg, W. Va.	5-6			1.43†														*			
Pensacola, Fla.	28			0.37														0.34			
Peoria, Ill.	4-5			0.78														*			
Philadelphia, Pa.	6-7			1.55†														*			
Phoenix, Ariz.	2			0.26														0.05			
Pierre, S. Dak.	12			0.44														*			
Pittsburg, Pa.	13-14			1.03														*			
Pocatello, Idaho	1-2			0.93														*			
Point Reyes Light, Cal.	24			0.58														0.21			
Port Huron, Mich.	13-14			0.58														*			
Portland, Me.	6-7			0.82														*			
Portland, Oreg.	18			1.16														0.22			
Providence, R. I.	6-7			1.16														*			
Pueblo, Colo.	3			0.12														*			
Raleigh, N. C.	21			1.04														0.44			
Rapid City, S. Dak.	3, 4			0.21														*			
Red Bluff, Cal.	15			0.40														0.24			
Reno, Nev.	16			0.29														*			
Richmond, Va.	24			0.18														0.18			
Rochester, N. Y.	21			0.73														*			
Roseburg, Oreg.	25			0.55														0.21			
Roswell, N. Mex.	3			0.05														*			
Sacramento, Cal.	23			0.17														0.13			
St. Louis, Mo.	12-13			1.47														*			
St. Paul, Minn.	26			0.44														*			
Salt Lake City, Utah	25			0.24														*			
San Antonio, Tex.	13			0.77														0.67			
San Diego, Cal.	1			0.70														0.26			
Sandusky, Ohio	21-22			1.27														*			
San Francisco, Cal.	13			0.74														0.35			
San Jose, Cal.	16			0.40														0.16			
San Luis Obispo, Cal.	24			0.74														0.28			
Santa Fe, N. Mex.	16			0.22														*			
Sault Ste. Marie, Mich.	4-5			0.45														*			
Savannah, Ga.	21	D. N.	9:15 a. m.	0.47	2:08 a. m.	2:23 a. m.	0.08	0.26	0.34	0.38											
Scranton, Pa.	6-7			0.98†														*			
Seattle, Wash.	17			0.79														0.16			
Sheridan, Wyo.	31-1‖			0.29														*			

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

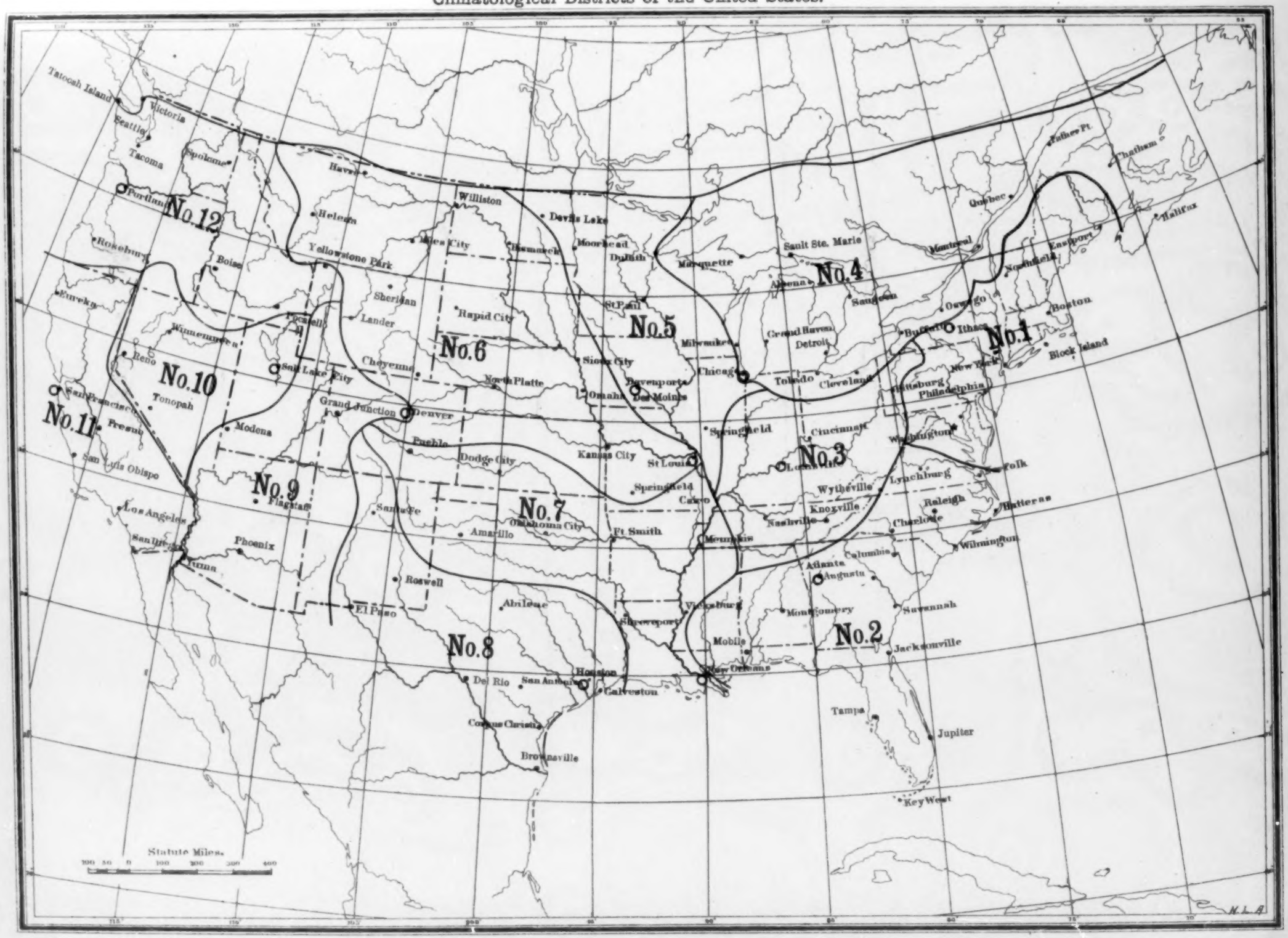
Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Shreveport, La.	20			1.18														0.46			
Sioux City, Iowa	12–13			0.39†														*			
Southeast Farallon, Cal.	13			0.40														0.19			
Spokane, Wash.	23–24			0.28														*			
Springfield, Ill.	4			0.90														*			
Springfield, Mo.	12–13			0.56														*			
Syracuse, N. Y.	17–18			0.60														*			
Tacoma, Wash.	17			1.16														0.22			
Tampa, Fla.	21			0.31														0.25			
Tatoosh Island, Wash.	17			1.93														0.48			
Taylor, Tex.	4			0.15														0.05			
Thomasville, Ga.	20–21	5:00 p. m.	D. N.	1.46	9:20 p. m.	9:50 p. m.	0.72	0.07	0.12	0.23	0.27	0.45	0.58								
Do	28	7:01 a. m.	9:45 a. m.	1.01	7:30 a. m.	8:33 a. m.	0.04	0.06	0.14	0.15	0.16	0.20	0.26	0.36	0.46	0.57	0.66	0.85	0.90		
Toledo, Ohio	13			1.10														*			
Tonopah, Nev.	2–3			0.18														*			
Topeka, Kans.	12			1.34														*			
Valentine, Nebr.	12			0.67														*			
Vicksburg, Miss.	20			0.86														0.52			
Walla Walla, Wash.	31			0.80														*			
Washington, D. C.	28–29			1.01														*			
Wichita, Kans.	11–12			0.32														*			
Williston, N. Dak.	4			0.10														*			
Wilmington, Del.	21			0.58														0.32			
Winnemucca, Nev.	31–1‖			0.60														*			
Wytheville, Va.	20–21			0.97														*			
Yankton, S. Dak.	12–13			0.65														*			
Yellowstone Park, Wyo.	1			0.94														*			

* Self-register not working. † Estimated. ‡ No precipitation recorded during month. ‖ Includes part of December 31, 1909.

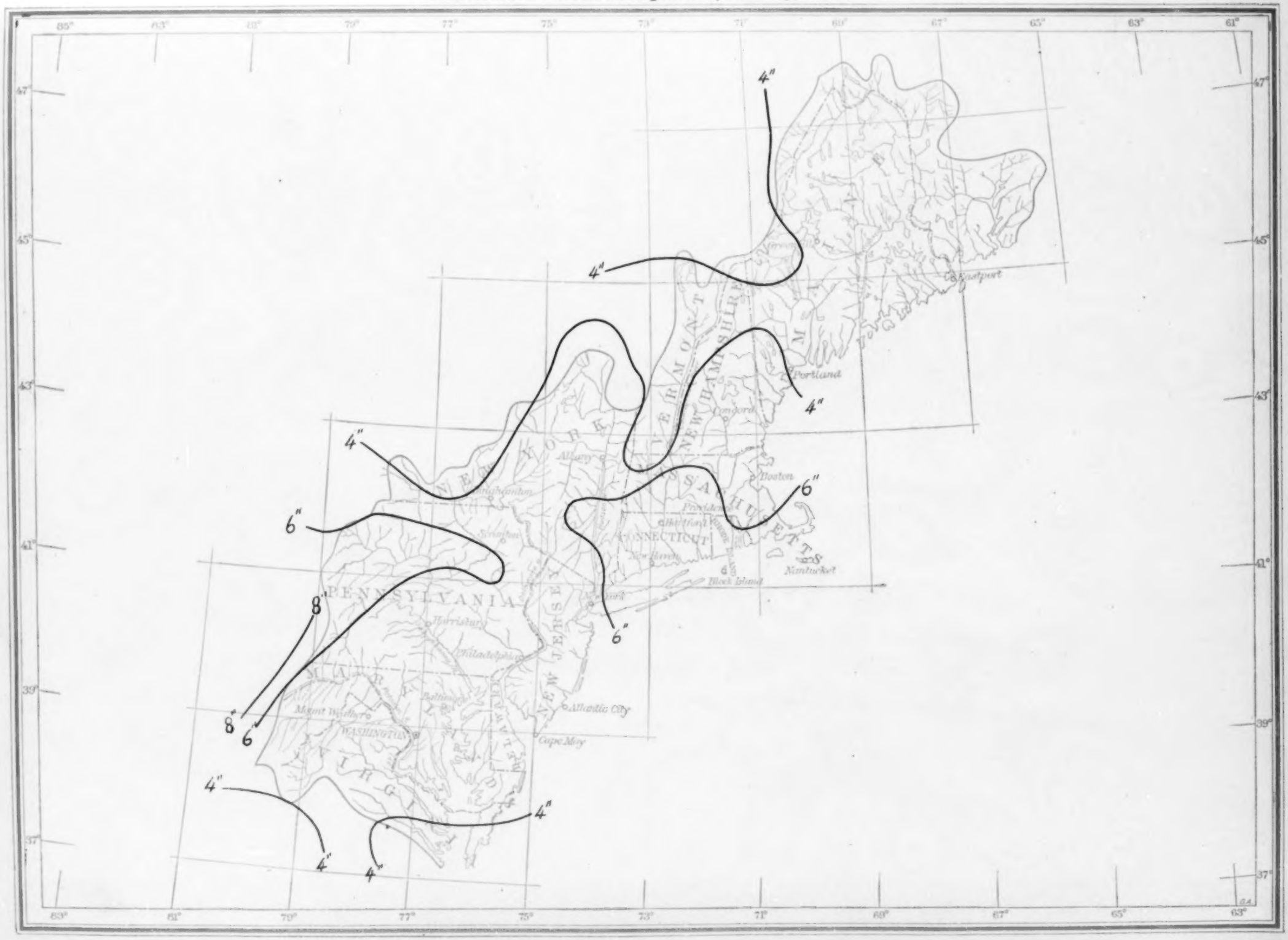
TABLE III.—*Data furnished by the Canadian Meteorological Service, January, 1910.*

Stations.	Pressure. Actual, reduced to mean of 24 hours.	Pressure. Sea level, reduced to mean of 24 hours.	Pressure. Departure from normal.	Temperature. Mean.	Temperature. Departure from normal.	Temperature. Mean maximum.	Temperature. Mean minimum.	Precipitation. Total.	Precipitation. Departure from normal.	Precipitation. Total snowfall.
	Ins.	*Ins.*	*Ins.*	°	°	°	°	*Ins.*	*Ins.*	*Ins.*
St. Johns, N. F.	29.82	29.96	+.10	30.1	+ 6.3	35.7	24.4	3.77	−2.14	6.0
Sydney, C. B. I.	30.00	30.04	+.11	30.0	+ 9.5	36.4	23.7	6.05	+6.95	9.5
Halifax, N. S.	29.96	30.07	+.10	28.2	+ 6.4	35.7	20.6	9.48	+3.71	15.5
Grand Manan, N. B.	30.02	30.07	+.08	30.0	+ 6.6	37.2	22.9	3.47	−1.44	3.4
Yarmouth, N. S.	30.00	30.07	+.07	31.3	+ 5.0	37.6	25.0	6.98	+1.57	26.0
Charlottetown, P. E. I.	30.00	30.04	+.08	24.2	+ 7.2	31.2	17.3	4.78	+0.82	15.2
Chatham, N. B.	30.05	30.08	+.11	19.0	+ 9.2	27.9	10.0	4.18	+0.59	6.6
Father Point, Que.	30.02	30.05	+.07	19.4	+11.4	26.2	12.6	1.87	−0.98	14.3
Quebec, Que.	29.73	30.07	+.65	16.3	+ 7.2	24.0	8.6	4.82	+0.81	27.0
Montreal, Que.	29.86	30.08	+.04	20.5	+ 8.8	27.4	13.6	4.01	+0.28	30.5
Stonecliffe, Ont	29.42	30.05	+.03	16.4	+10.0	29.7	3.1	1.19	−1.13	10.3
Ottawa, Ont.	29.80	30.15	+.12	17.7	+ 8.1	25.8	9.6	3.40	+0.41	18.1
Kingston, Ont.	29.78	30.12	+.07	23.0	+ 5.9	29.9	16.1	2.46	−0.99	8.5
Toronto, Ont.	29.66	30.06	+.2[illegible]	25.5	+ 4.1	31.9	19.0	3.49	+0.57	19.9
White River, Ont.	28.63	30.02	+.01	4.8	+ 5.4	17.1	− 7.5	0.11	−1.58	1.1
Port Stanley, Ont.	29.41	30.08	+.01	24.3	+ 2.1	30.3	18.4	5.10	+2.11	33.2
Southampton, Ont.	29.33	.....	.....	22.4	+ 2.0	29.0	15.8	3.89	−0.16	36.2
Parry Sound, Ont.	29.33	30.06	+.05	19.4	+ 5.6	28.3	10.5	4.99	+0.91	44.5
Port Arthur, Ont.	29.33	30.07	.00	11.0	+ 7.9	21.6	0.4	0.71	−0.11	7.1
Winnipeg, Man.	29.21	30.10	−.01	5.4	+12.2	13.9	− 3.2	0.25	−0.63	2.5
Minnedosa, Man.	28.12	30.04	−.06	6.0	+13.2	15.1	− 3.0	0.09	−0.77	0.3
Qu' Appelle, Assin.	27.58	29.94	−.14	8.6	+12.4	17.1	0.0	0.15	−0.35	1.5
Medicine Hat, Alberta	27.61	29.96	−.11	22.8	+17.3	31.7	14.0	0.29	−0.28	2.4
Swift Current, Sask.	27.30	29.99	−.10	15.8	+12.7	23.1	8.6	0.14	−0.50	1.0
Calgary, Alberta	26.24	29.90	−.13	21.1	+12.7	31.0	11.2	0.21	−0.32	2.1
Banff, Alberta	25.23	30.02	+.02	15.4	+ 3.3	23.7	7.1	0.46	−0.73	4.5
Edmonton, Alberta	27.49	29.88	−.15	13.4	+11.6	24.3	2.4	0.16	−0.52	1.6
Prince Albert, Sask.	28.37	30.01	−.08	5.4	+13.8	14.0	− 3.3	0.81	−0.16	8.1
Battleford, Sask.	28.12	29.95	−.13	5.3	+11.2	14.3	− 3.7	0.02	−0.38	0.2
Kamloops, B. C.	28.68	29.99	+.03	25.0	+ 2.0	31.2	18.8	0.22	−0.60	1.0
Victoria, B. C.	29.88	29.98	+.01	38.7	+ 0.2	42.6	34.9	4.54	−0.85	0.7
Barkerville, B. C.	25.43	29.85	−.04	16.4	− 1.4	21.2	11.5	3.30	+0.70	29.2
Dawson, Yukon	28.61	.....	.....	−20.5	.....	−12.5	−28.4	1.31	.....	13.1
Hamilton, Bermuda	30.09	30.26	+.13	60.9	− 1.1	65.6	56.1	9.44	+4.50	0.0

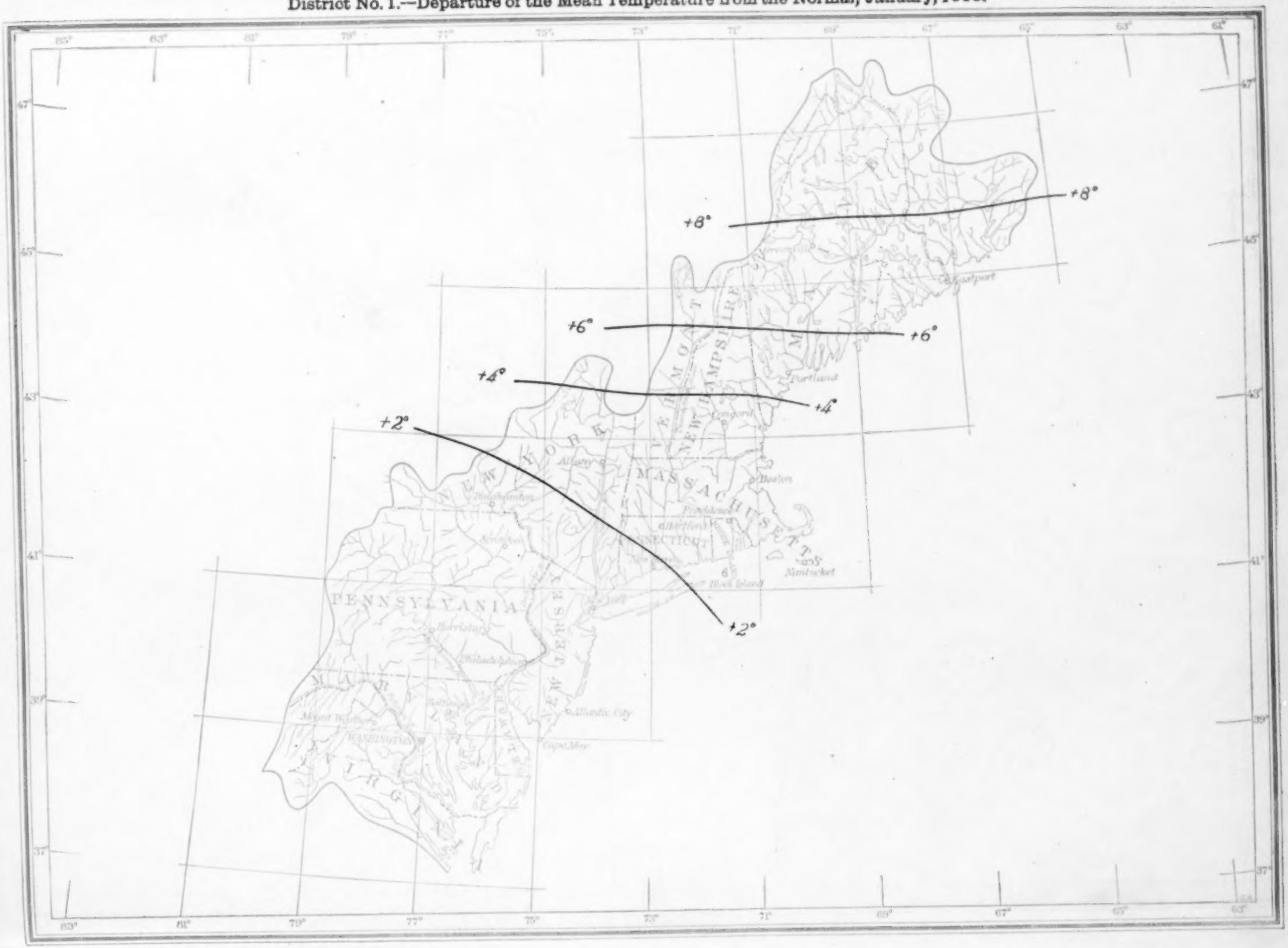
Climatological Districts of the United States.



District No. 1.—Total Precipitation, January, 1910.



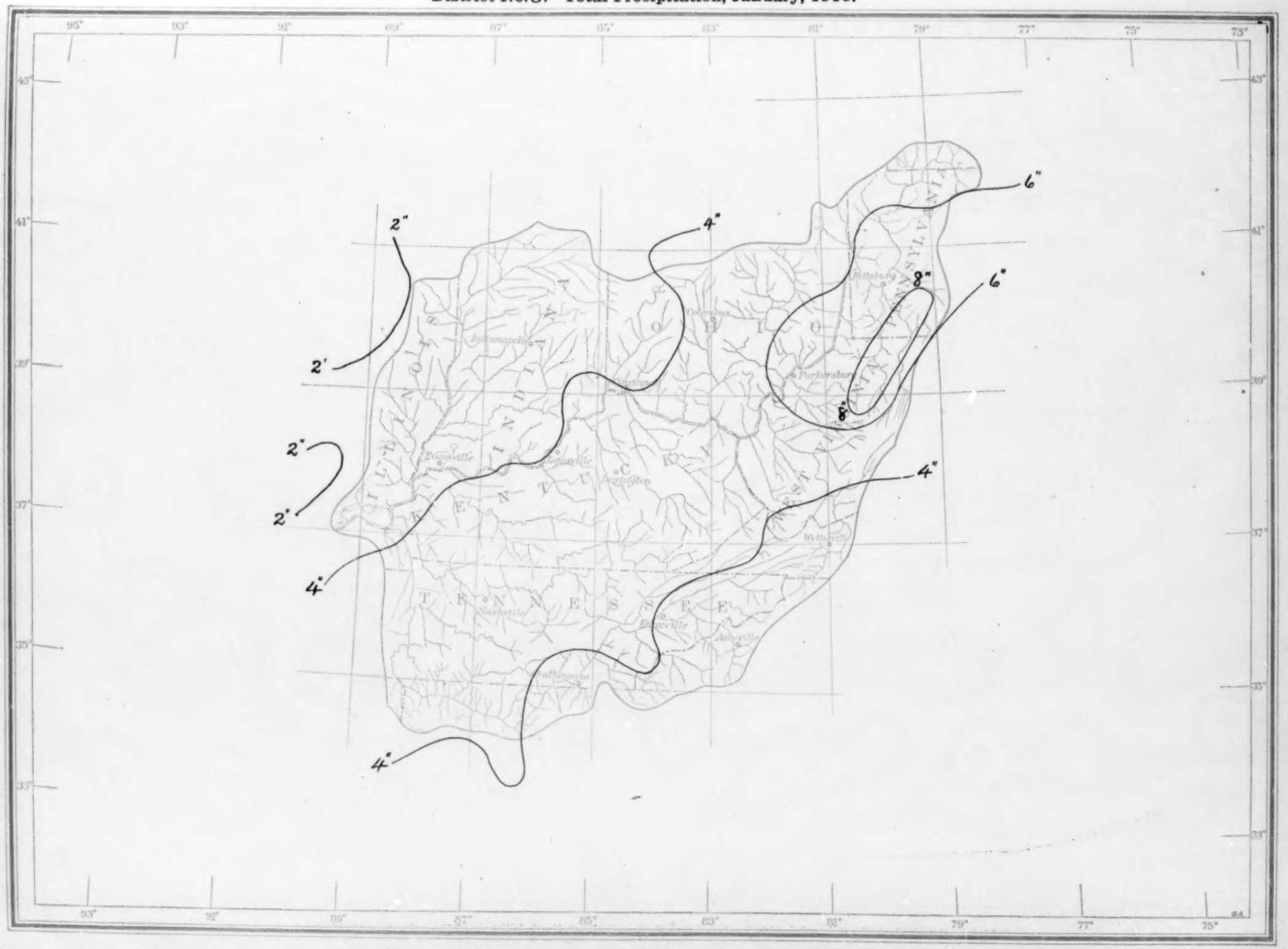
District No. 1.—Departure of the Mean Temperature from the Normal, January, 1910.



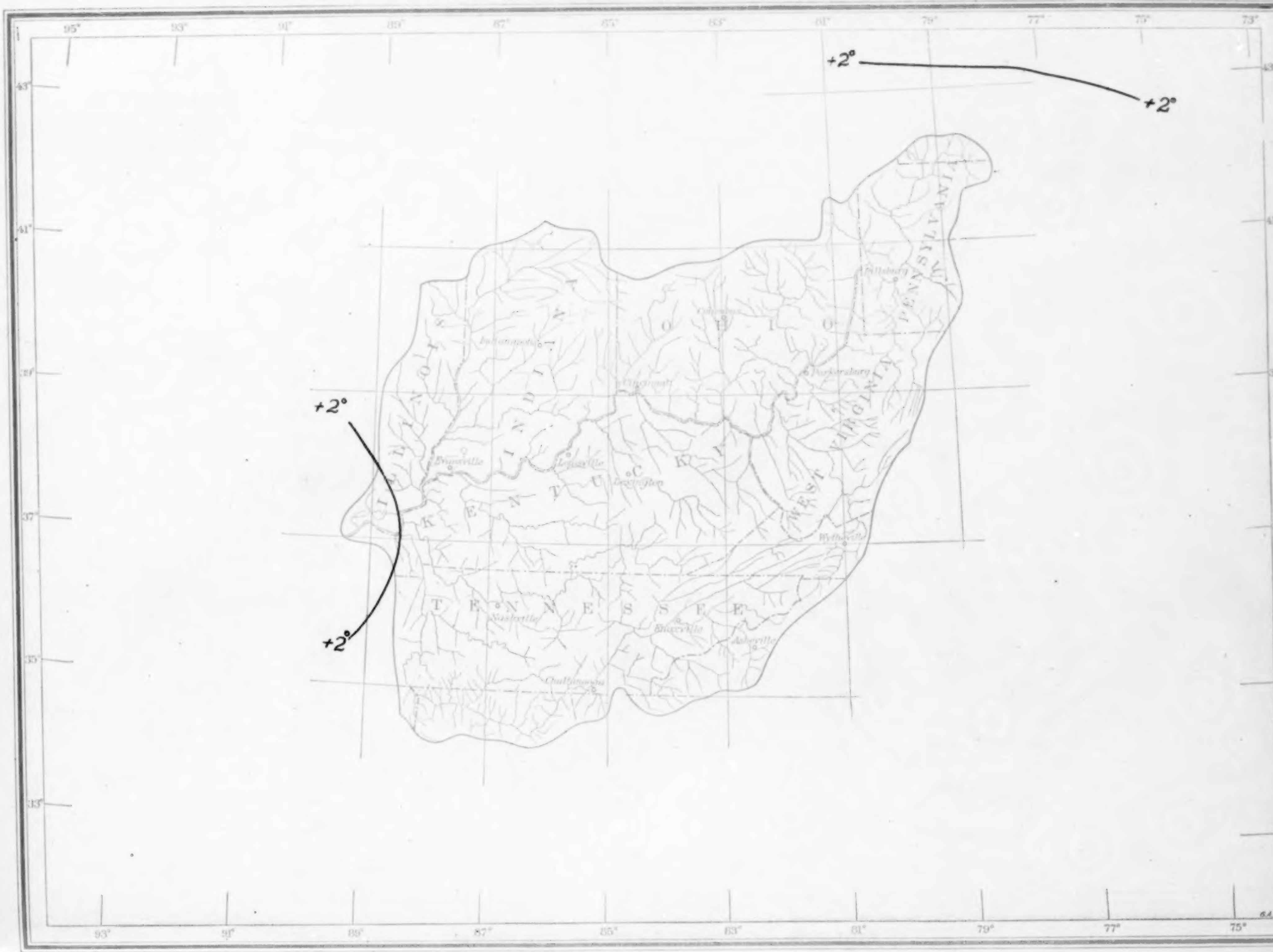
District No. 2.—Total Precipitation, January, 1910.

District No.2.—Departure of the Mean Temperature from the Normal, January, 1910.

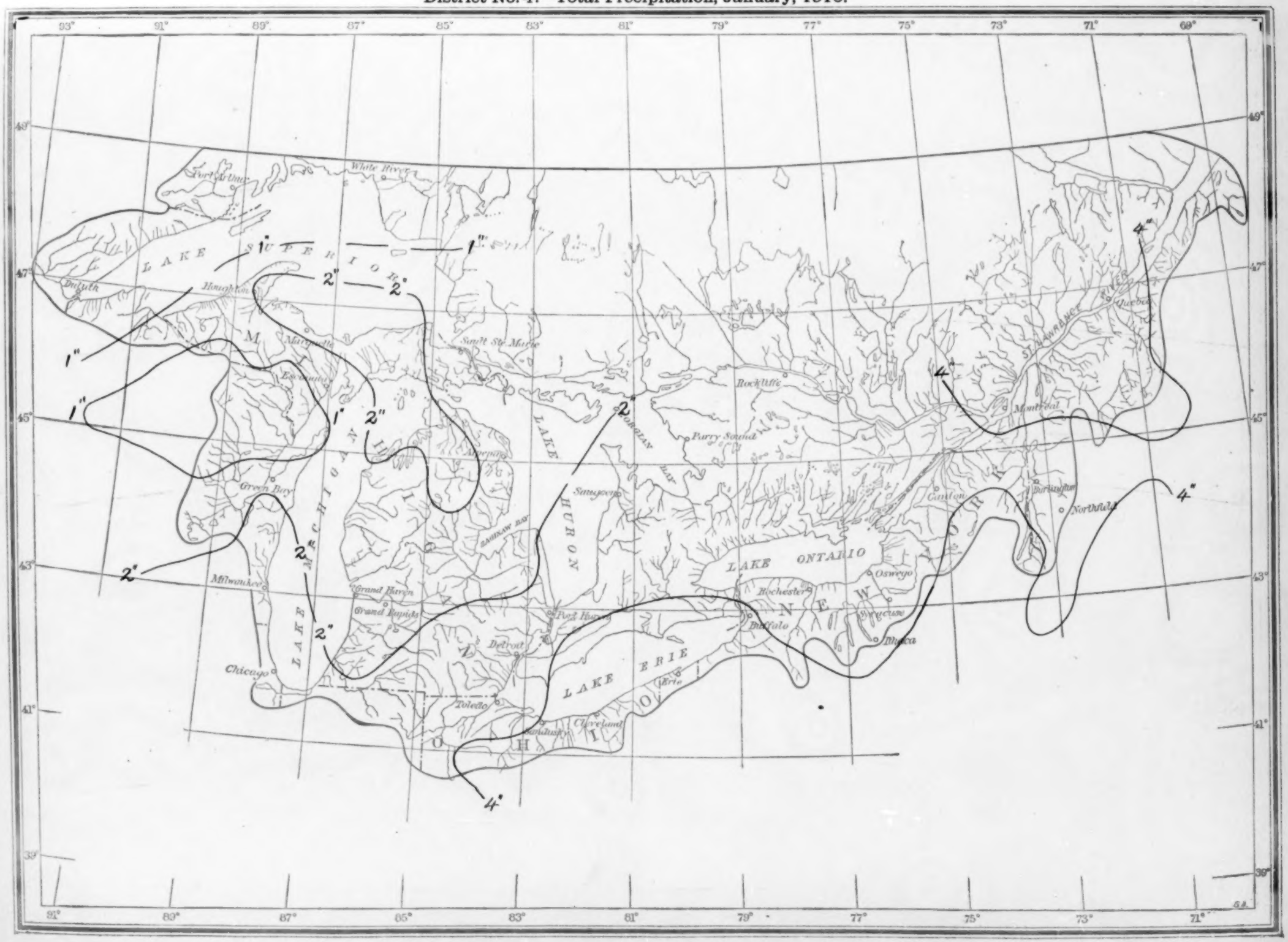
District No. 3.—Total Precipitation, January, 1910.



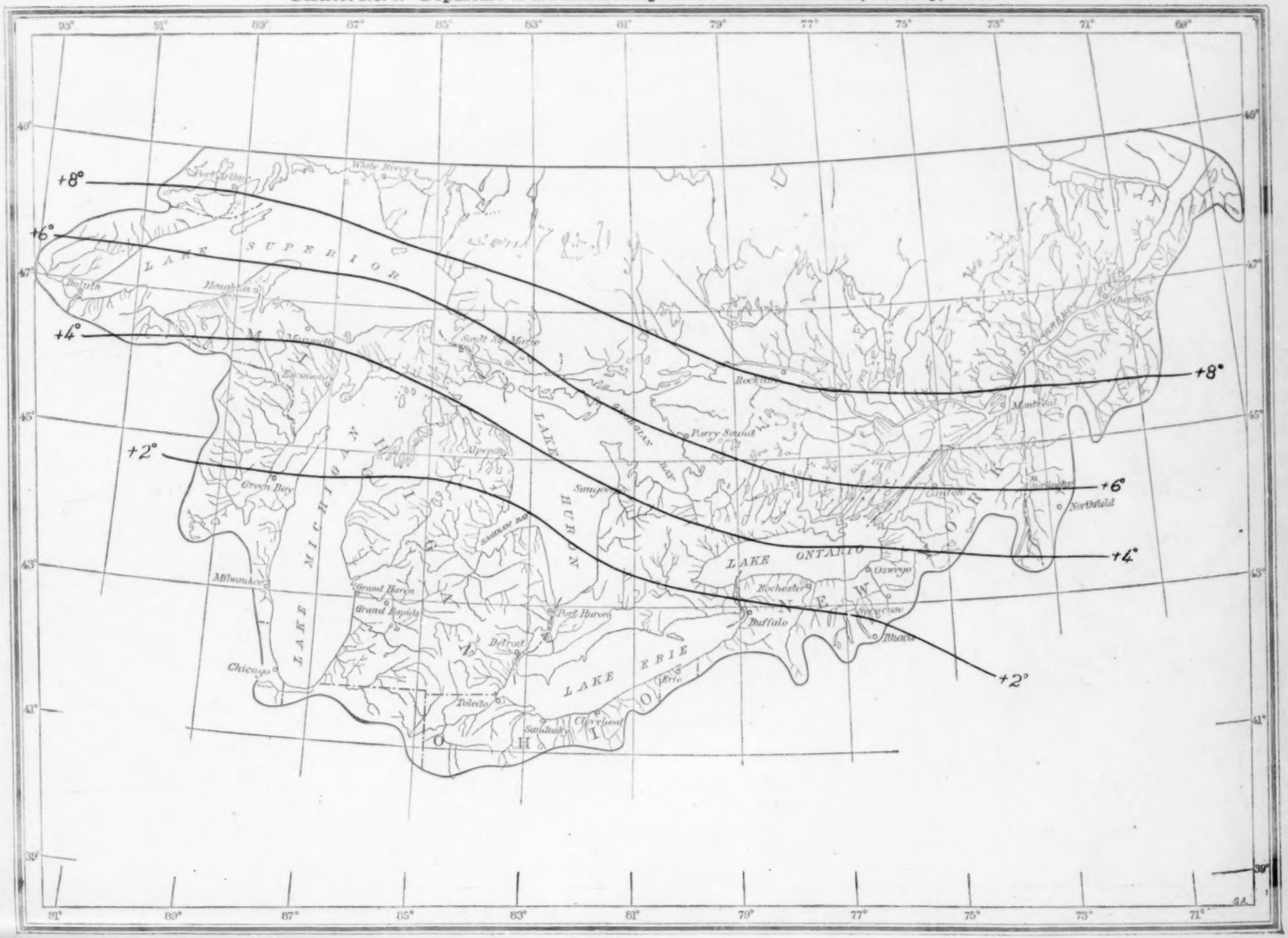
District No.3.—Departure of the Mean Temperature from the Normal, January, 1910.



District No. 4.—Total Precipitation, January, 1910.

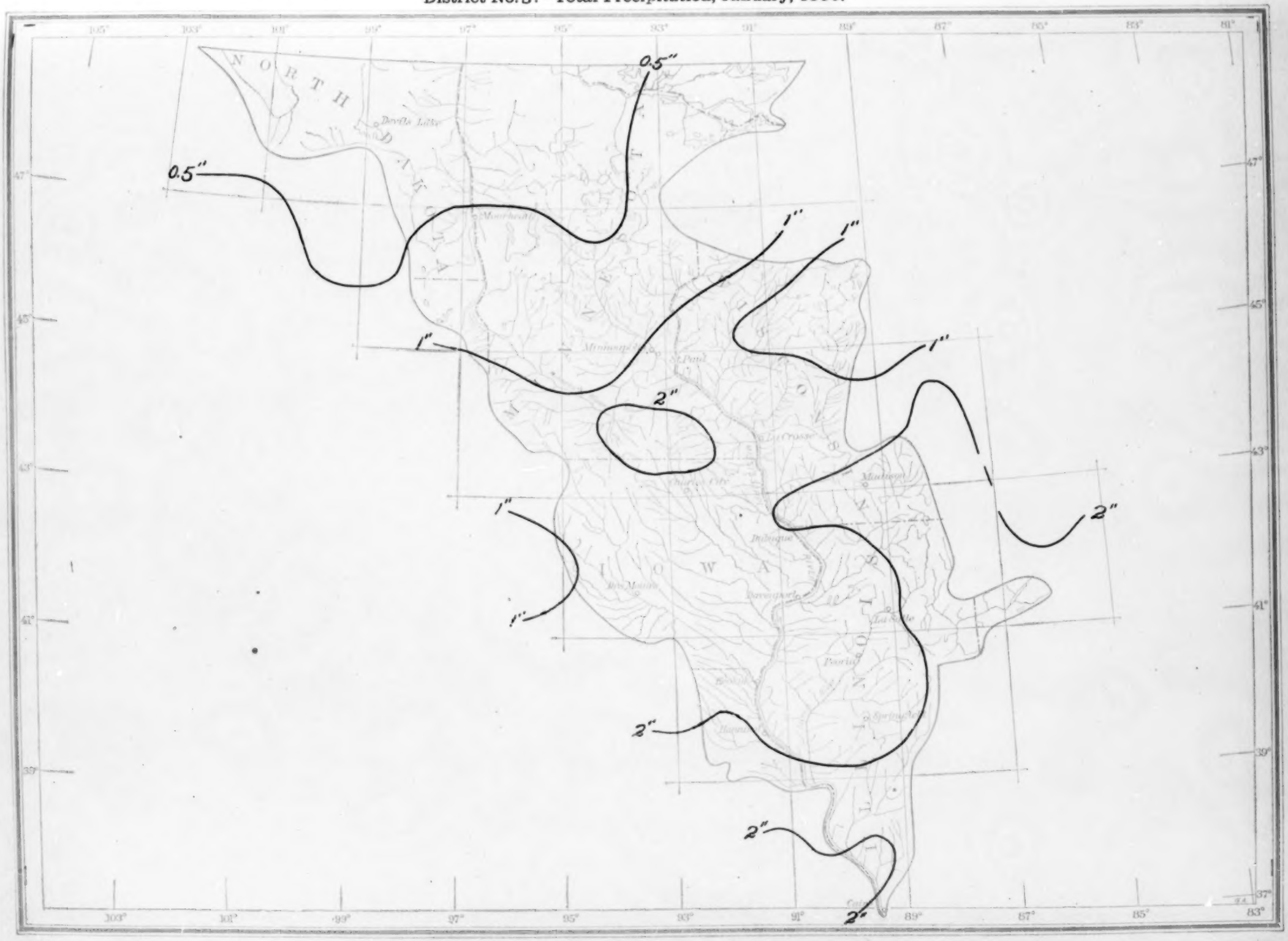


District No. 4.—Departure of the Mean Temperature from the Normal, January, 1910.

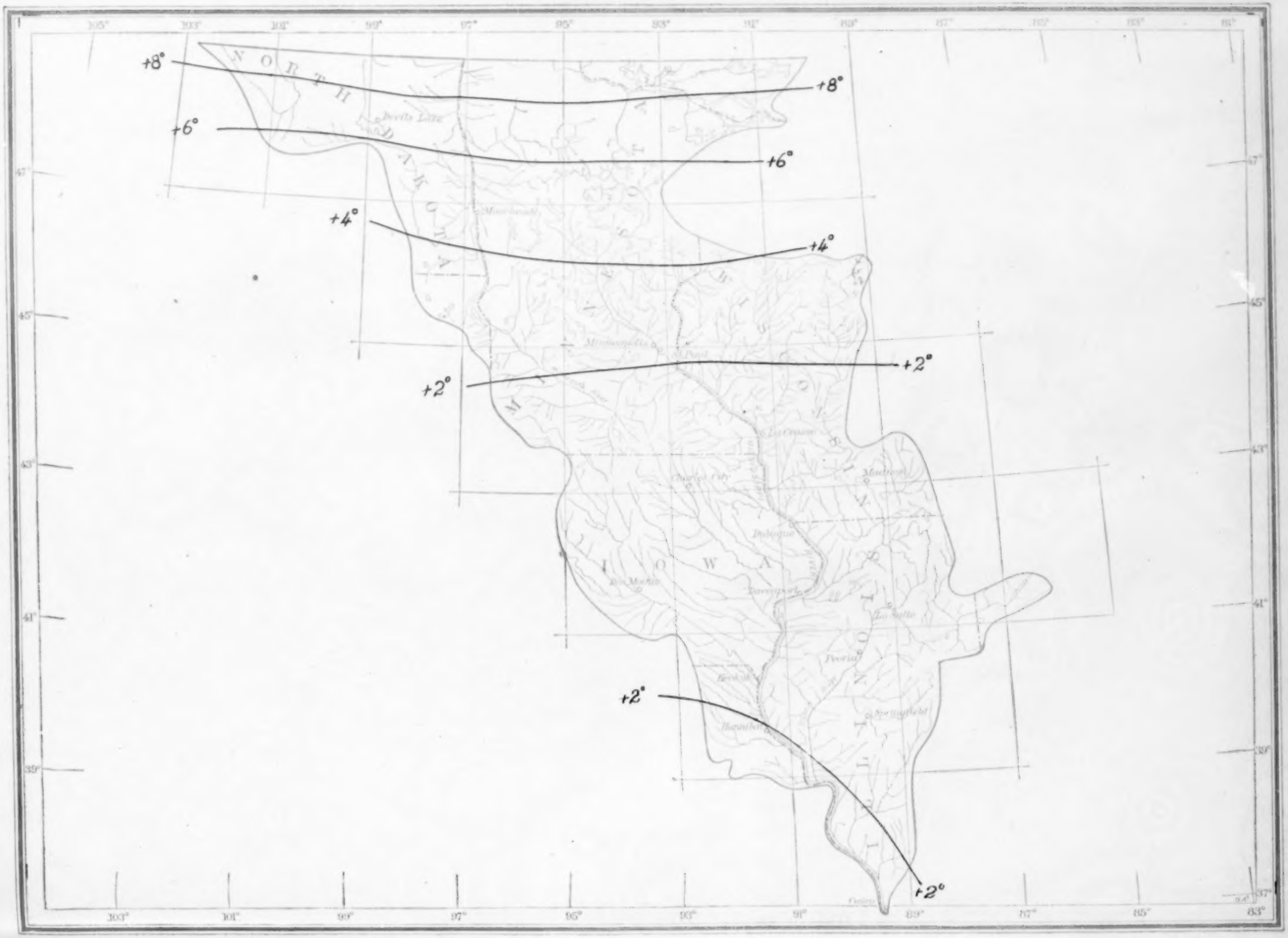


District No. 5.—Total Precipitation, January, 1910.

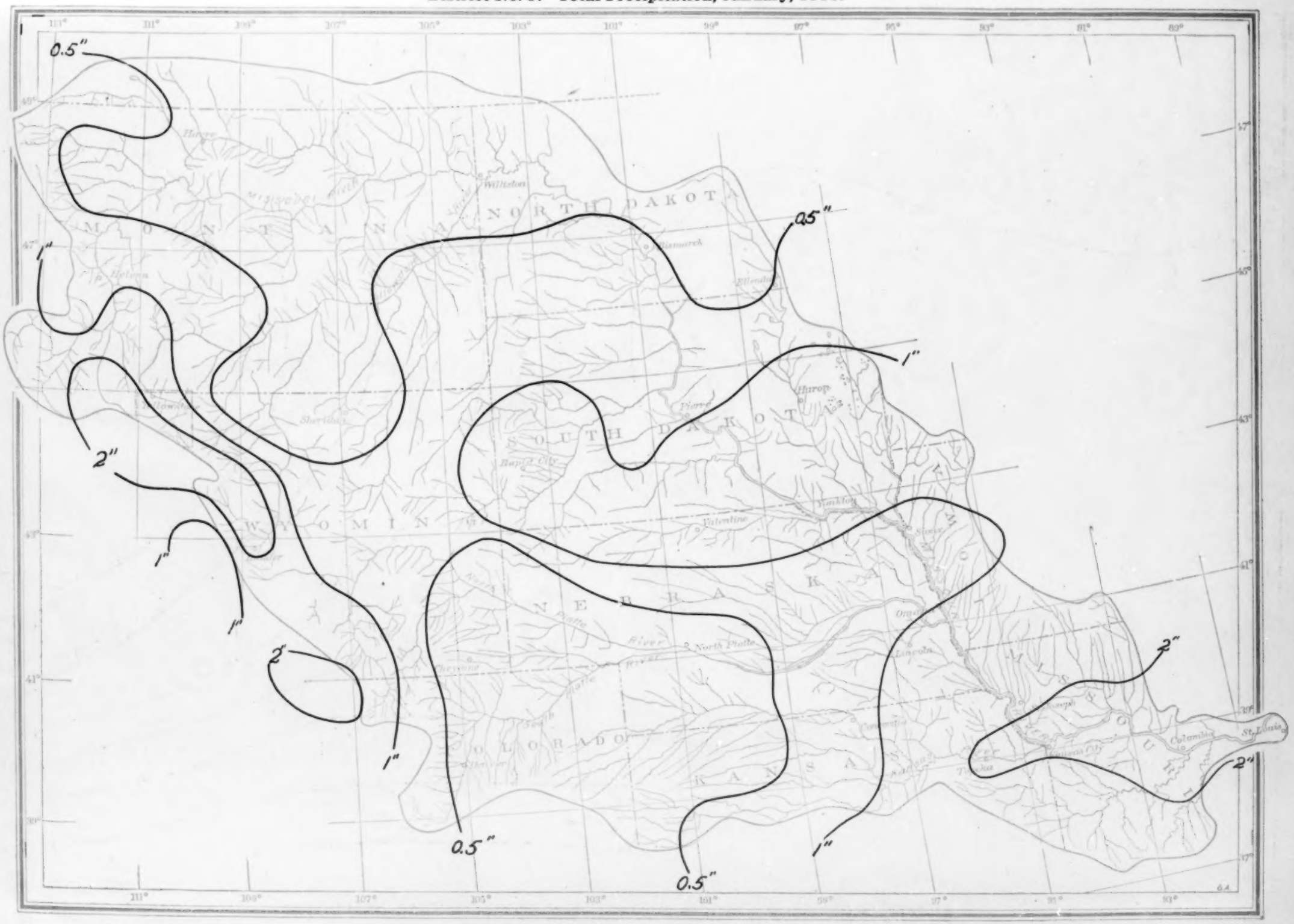
District No. 5.—Total Precipitation, January, 1910.



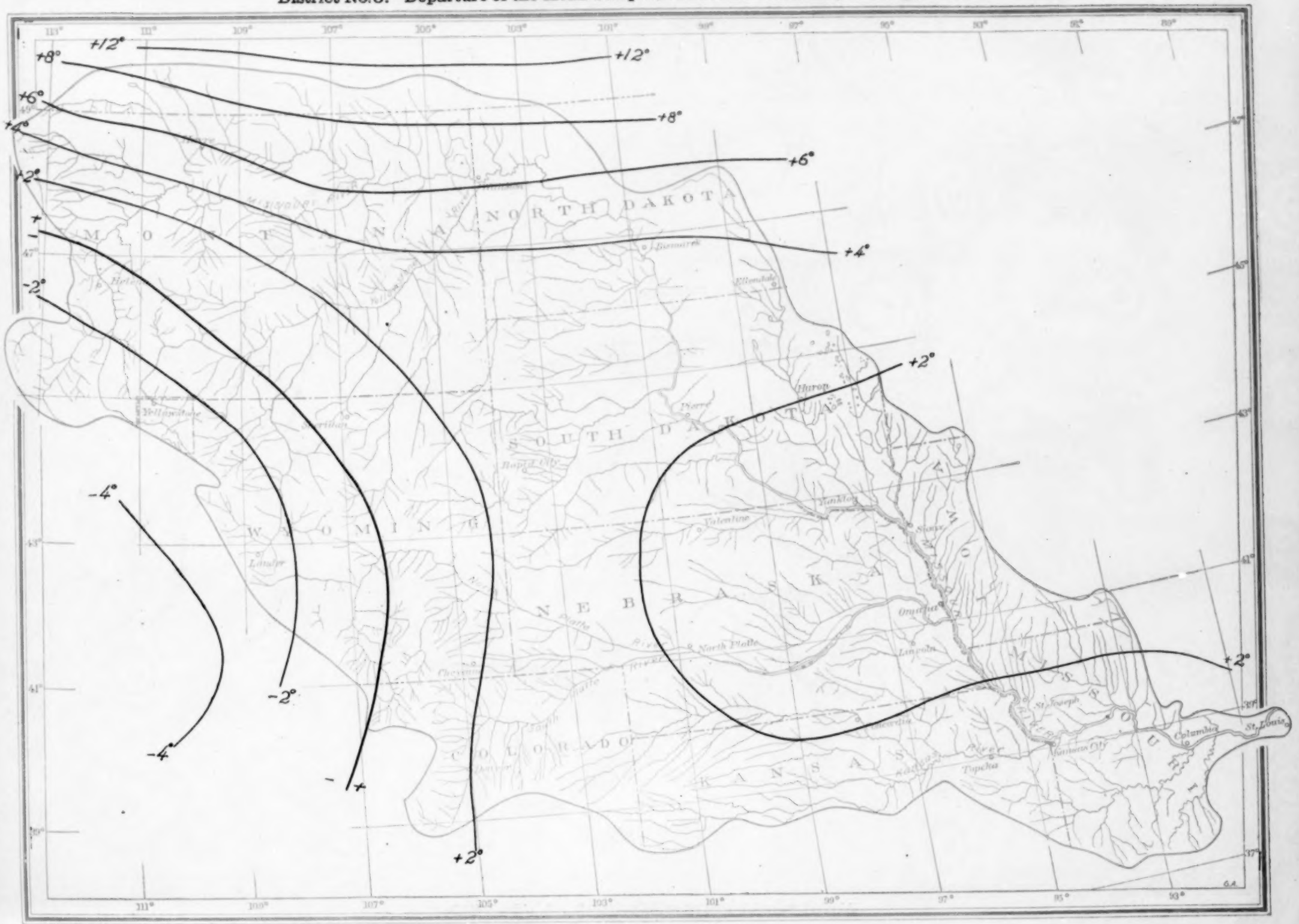
District No. 5.—Departure of the Mean Temperature from the Normal, January, 1910.



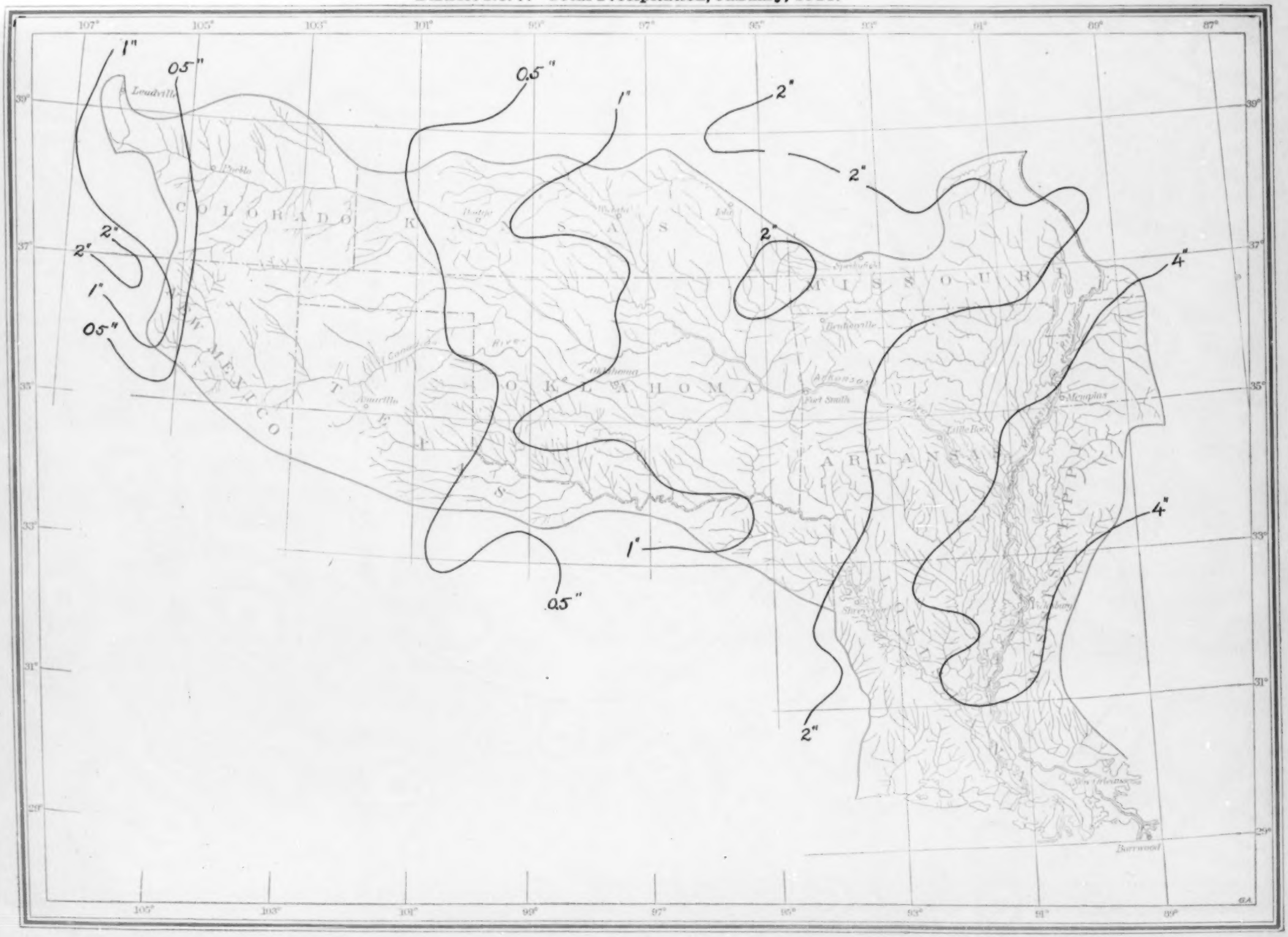
District No. 6.—Total Precipitation, January, 1910.



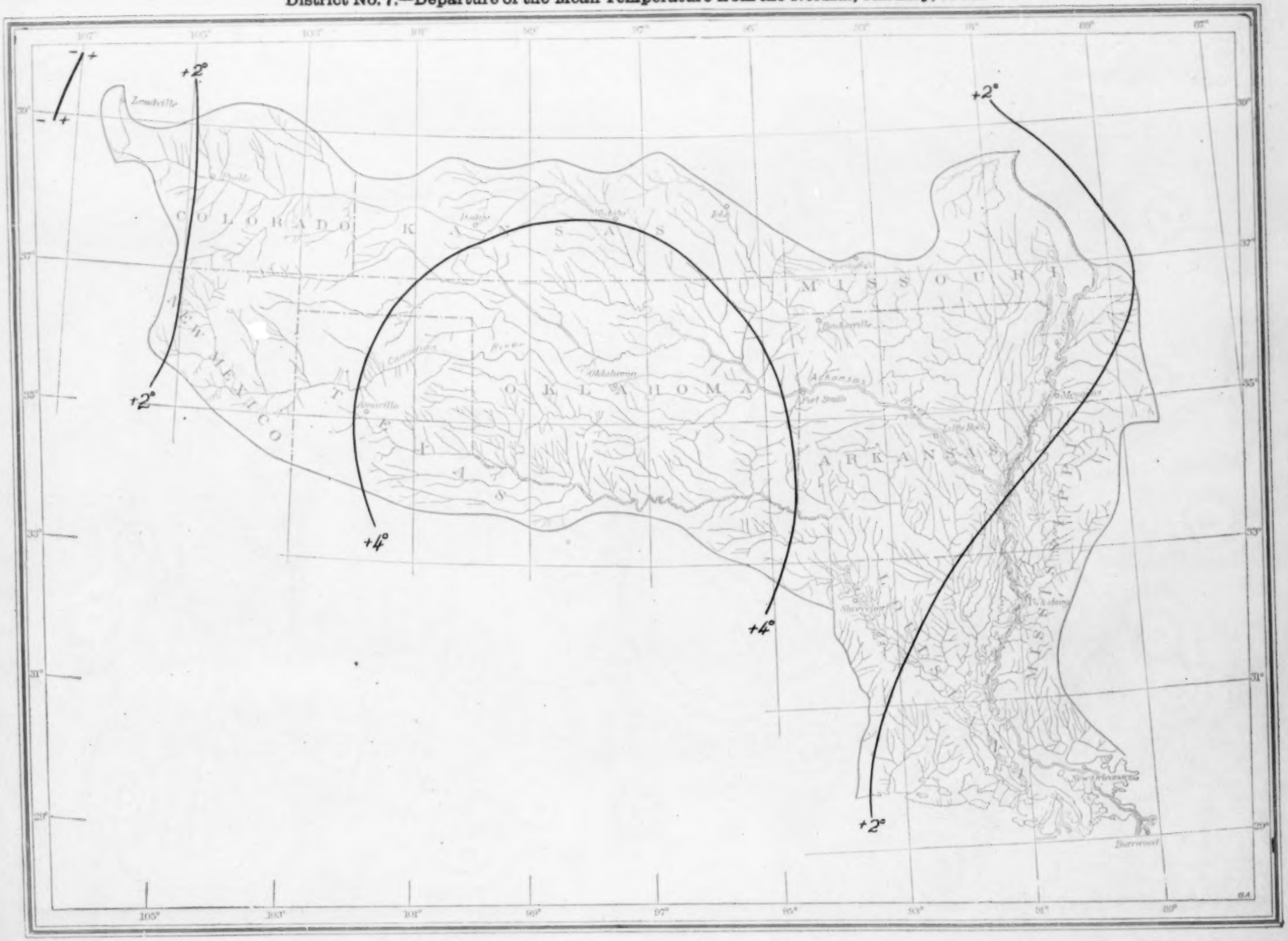
District No. 6.—Departure of the Mean Temperature from the Normal, January, 1910.



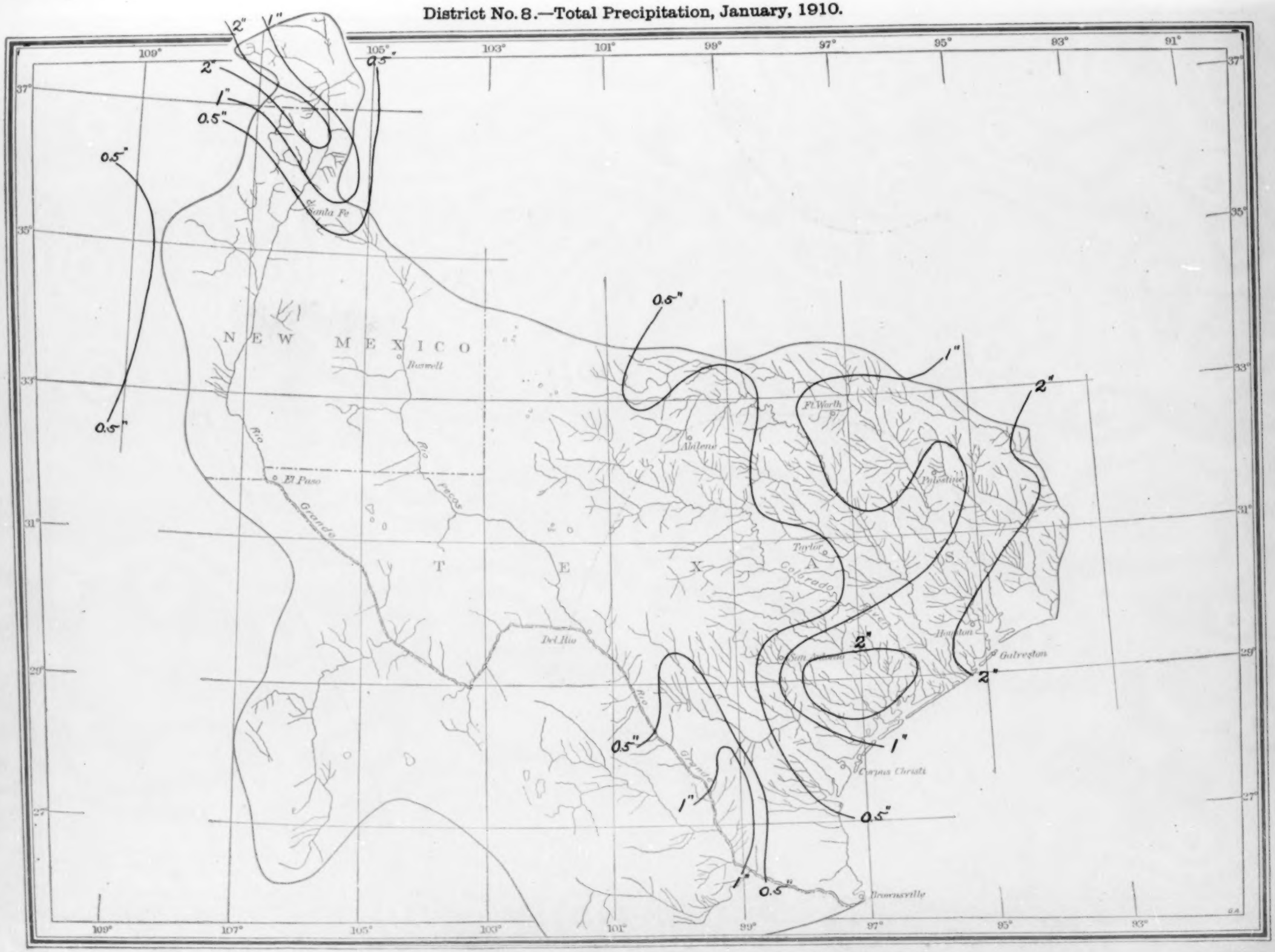
District No. 7.—Total Precipitation, January, 1910.



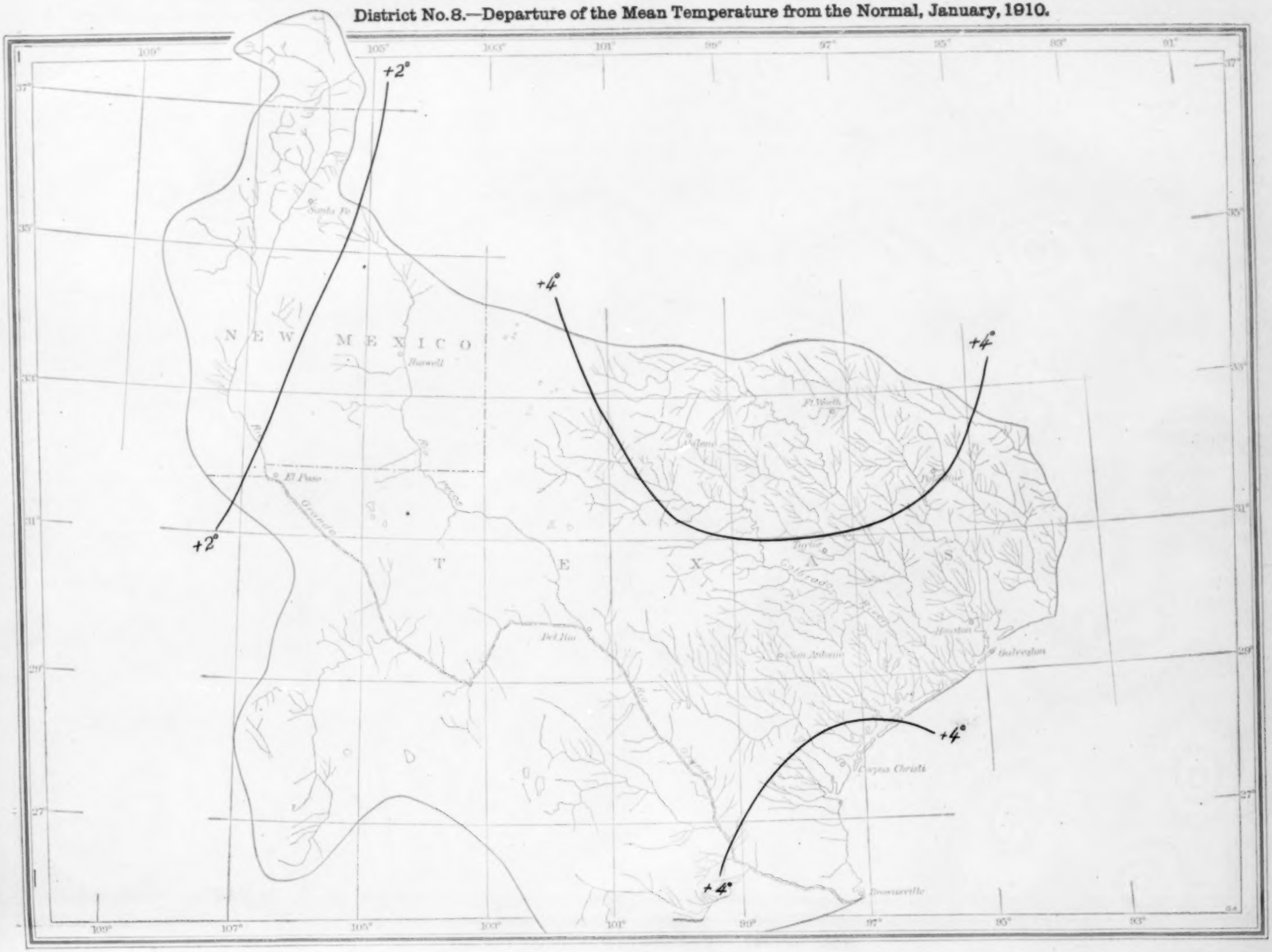
District No. 7.—Departure of the Mean Temperature from the Normal, January, 1910.



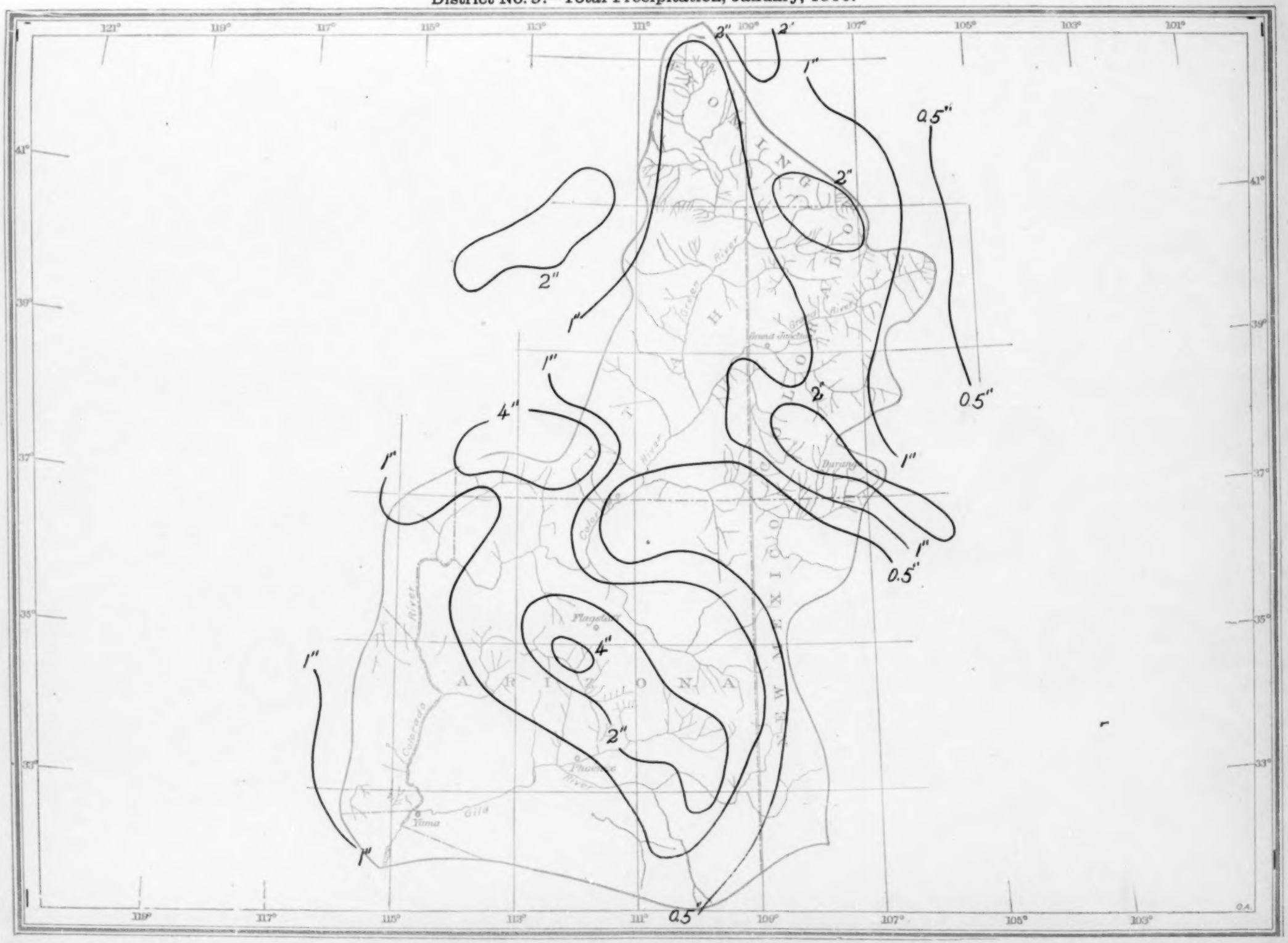
District No. 8.—Total Precipitation, January, 1910.



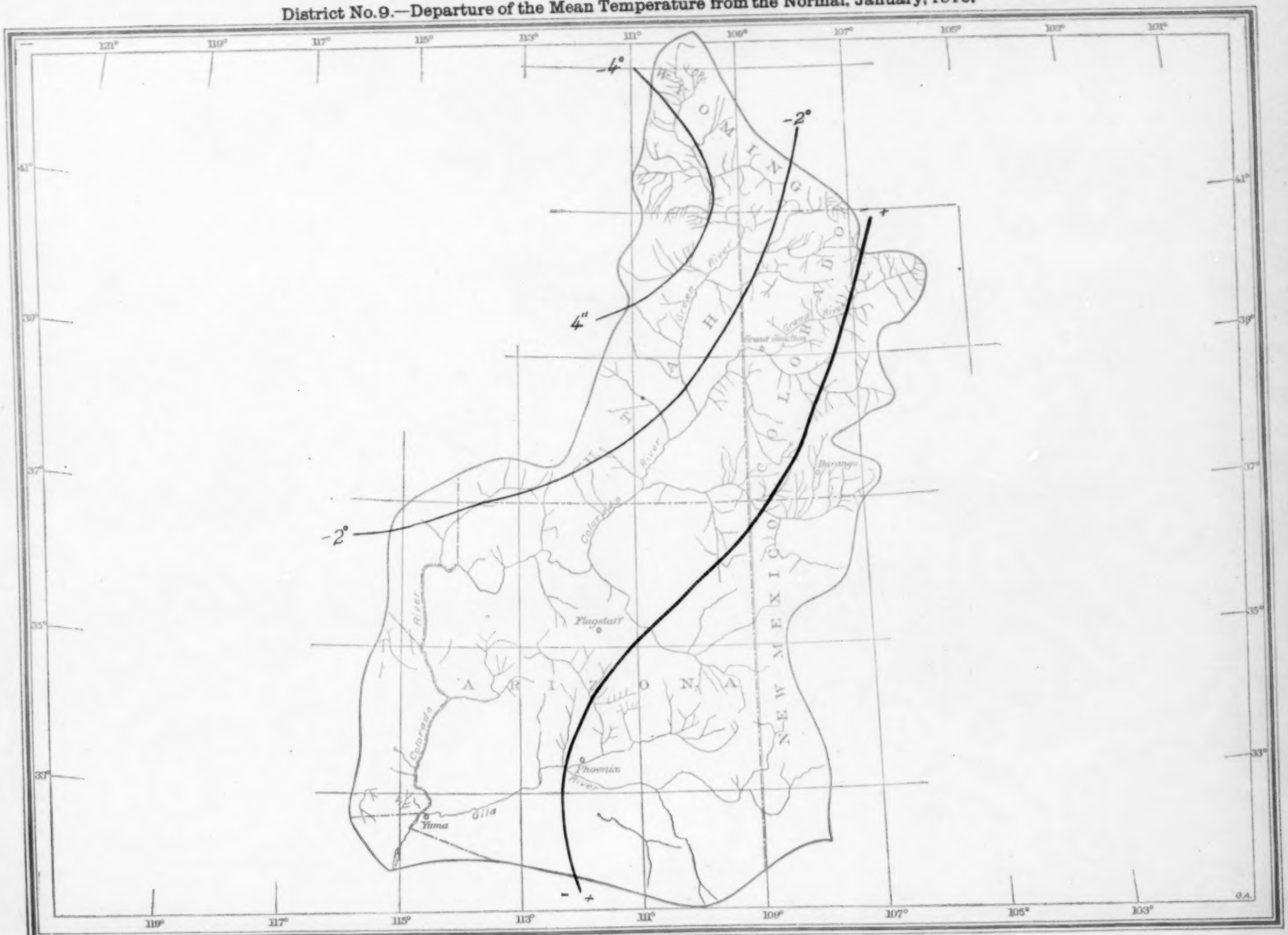
District No. 8.—Departure of the Mean Temperature from the Normal, January, 1910.



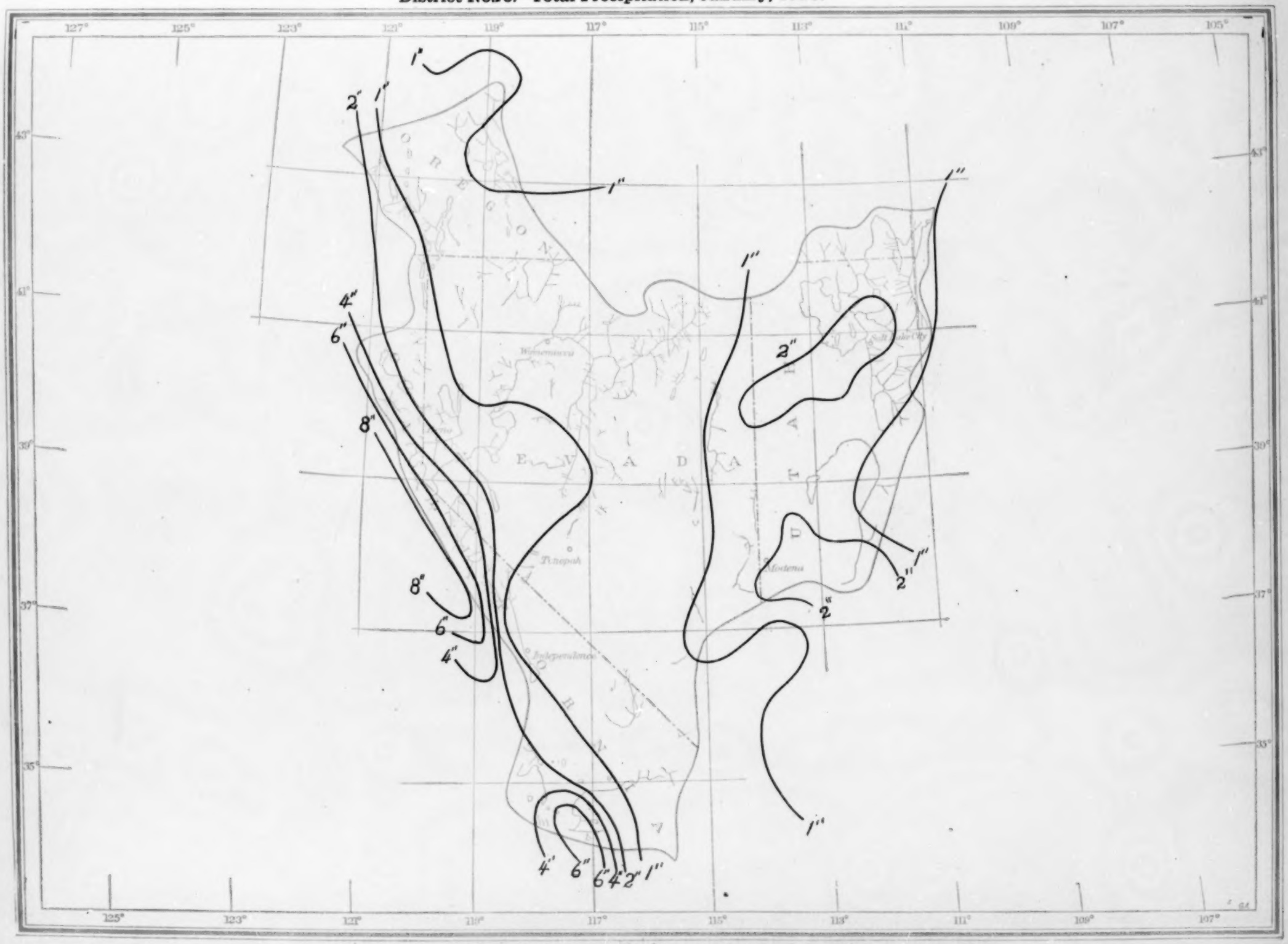
District No. 9.—Total Precipitation, January, 1910.



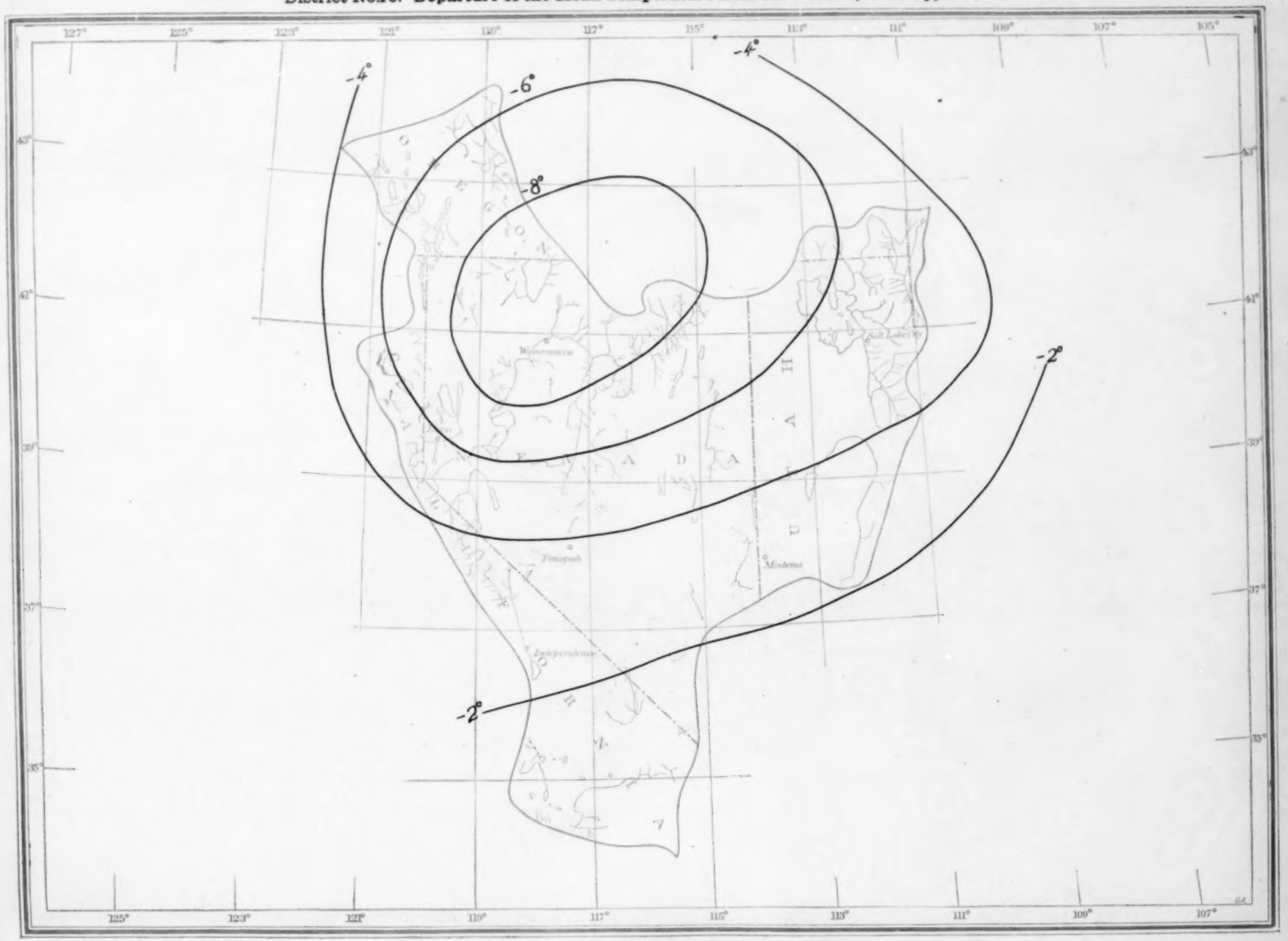
District No. 9.—Departure of the Mean Temperature from the Normal, January, 1910.



District No.10.—Total Precipitation, January, 1910.



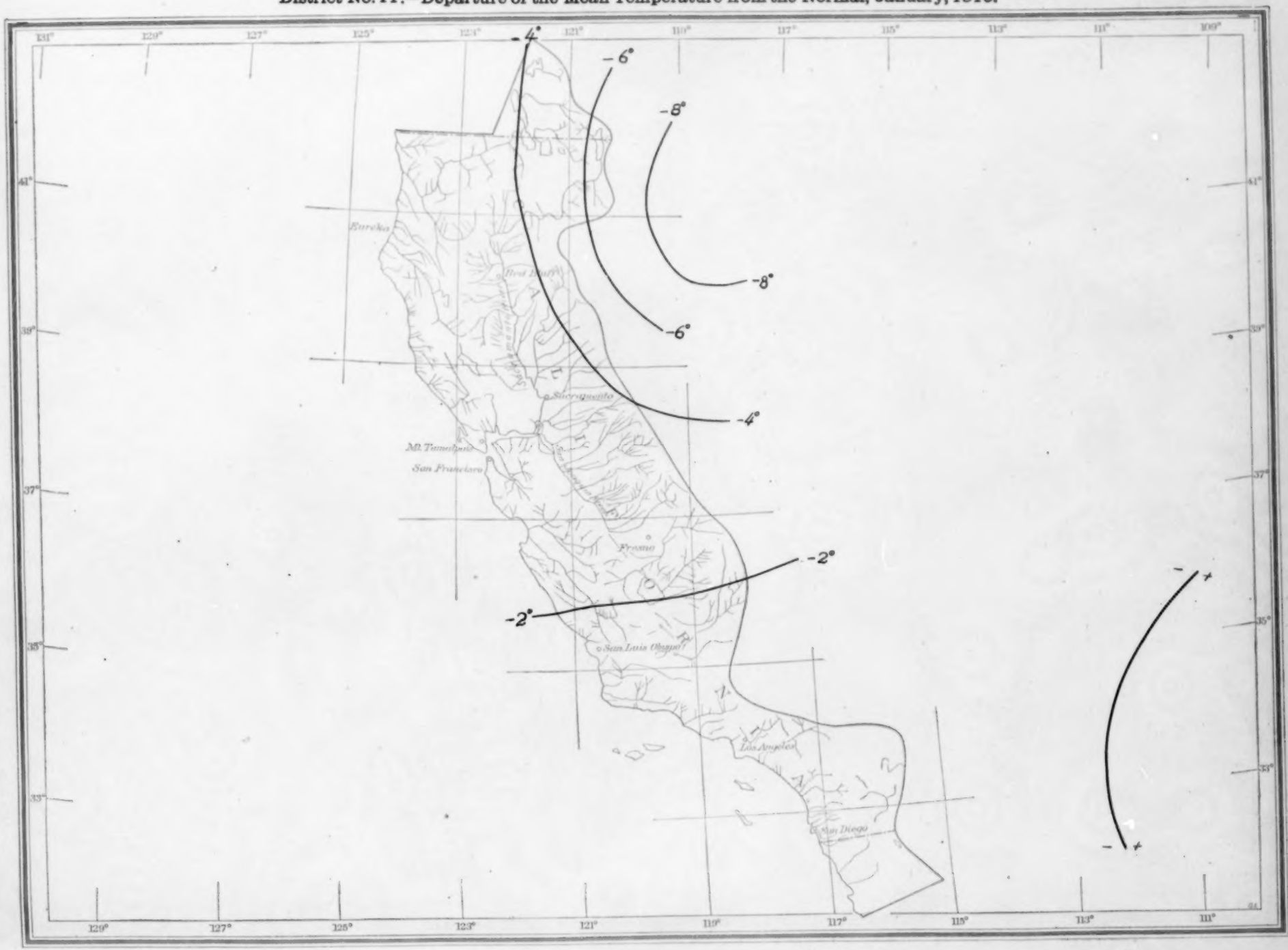
District No.10.—Departure of the Mean Temperature from the Normal, January, 1910.



District No. 11.—Total Precipitation, January, 1910.

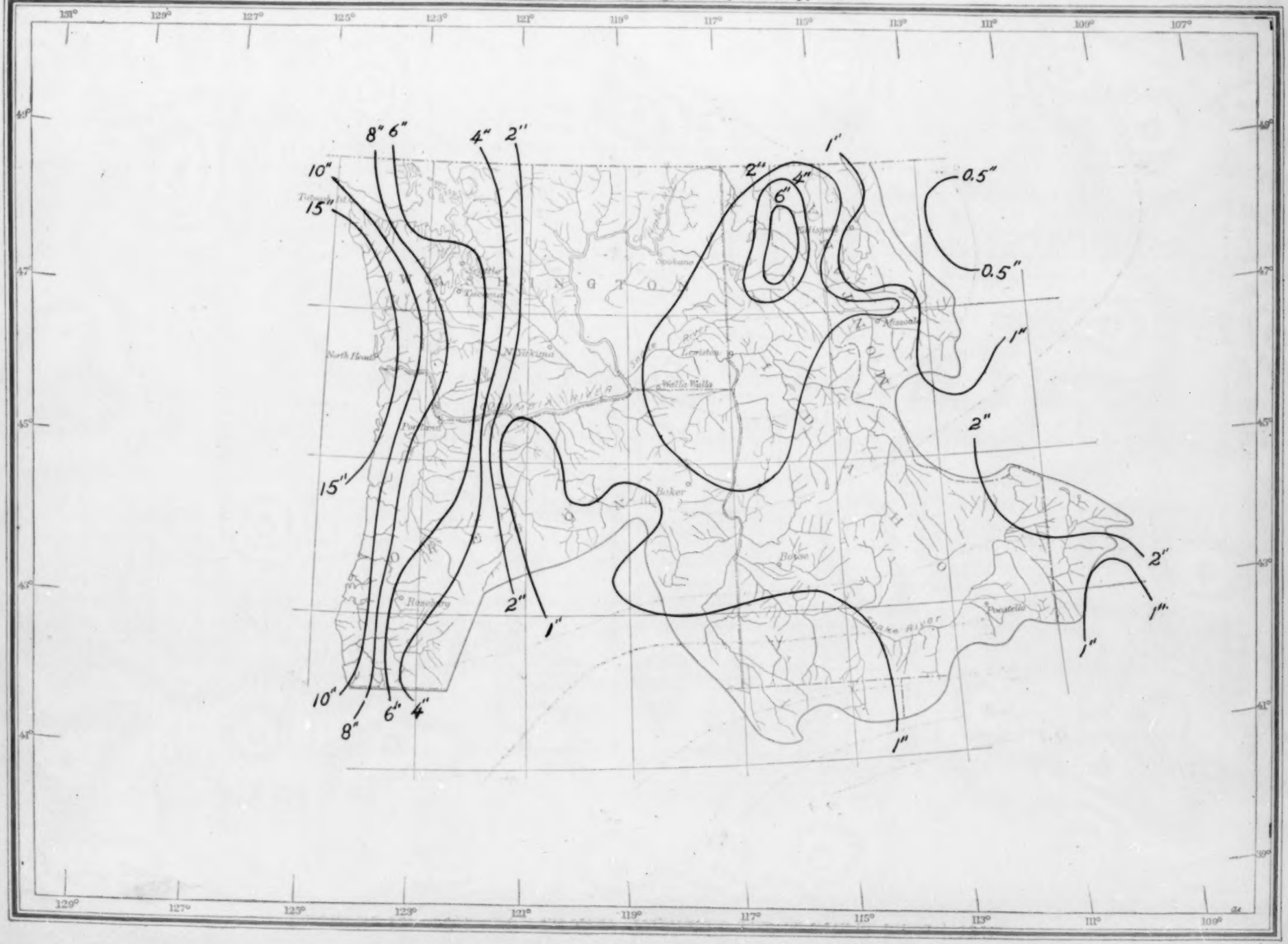
District No. 11.—Total Precipitation, January, 1910.

District No. 11.—Departure of the Mean Temperature from the Normal, January, 1910.



District No. 12.—Total Precipitation, January, 1910.

District No. 12.—Total Precipitation, January, 1910.



District No. 12.—Departure of the Mean Temperature from the Normal, January, 1910.

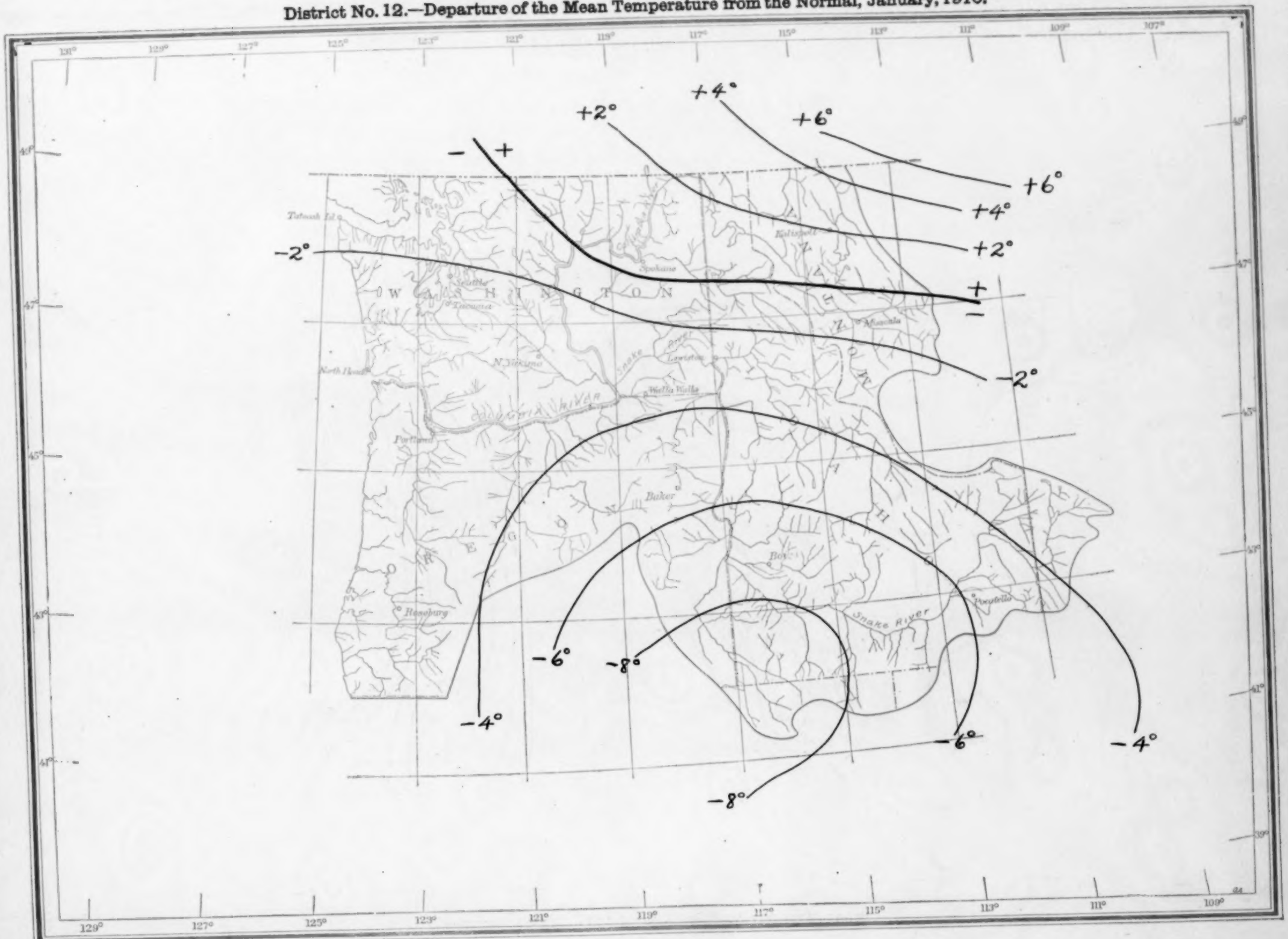


Chart I. Hydrographs of Several Principal Rivers, January, 1910.

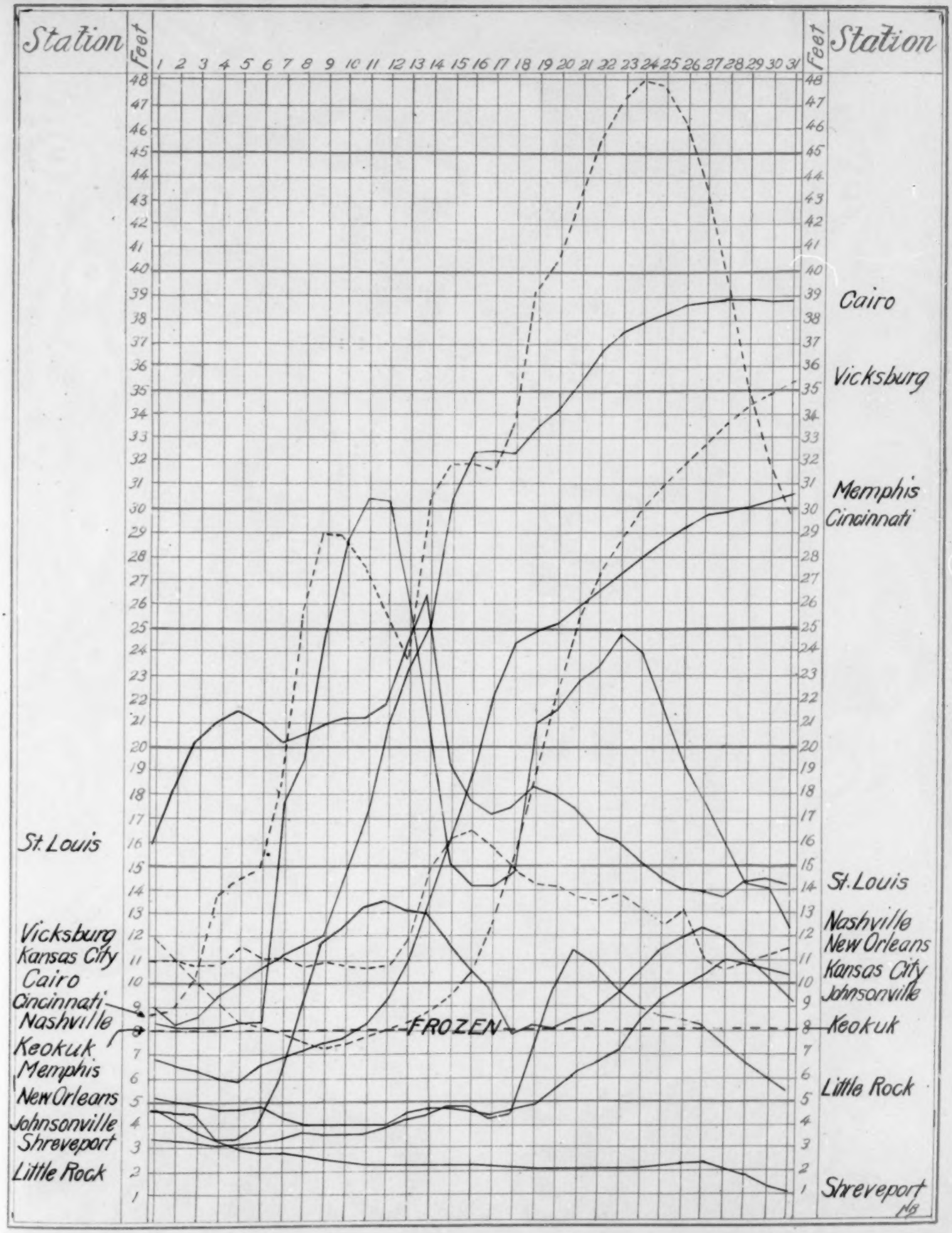


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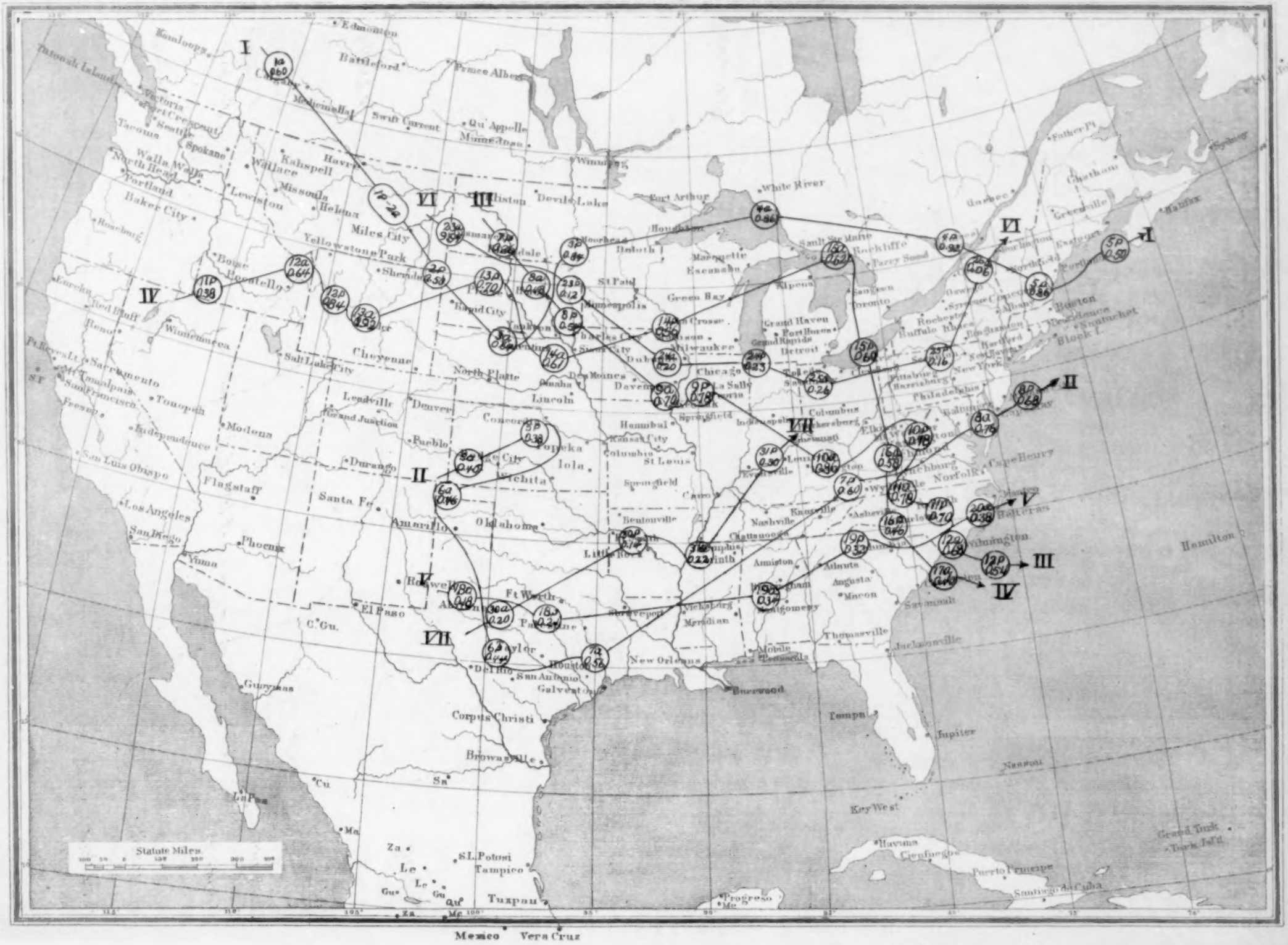
Chart II. Tracks of Centers of High Areas, January, 1910.



XXXVIII—3. • Barkerville

Chart III. Tracks of Centers of Low Areas, January, 1910.

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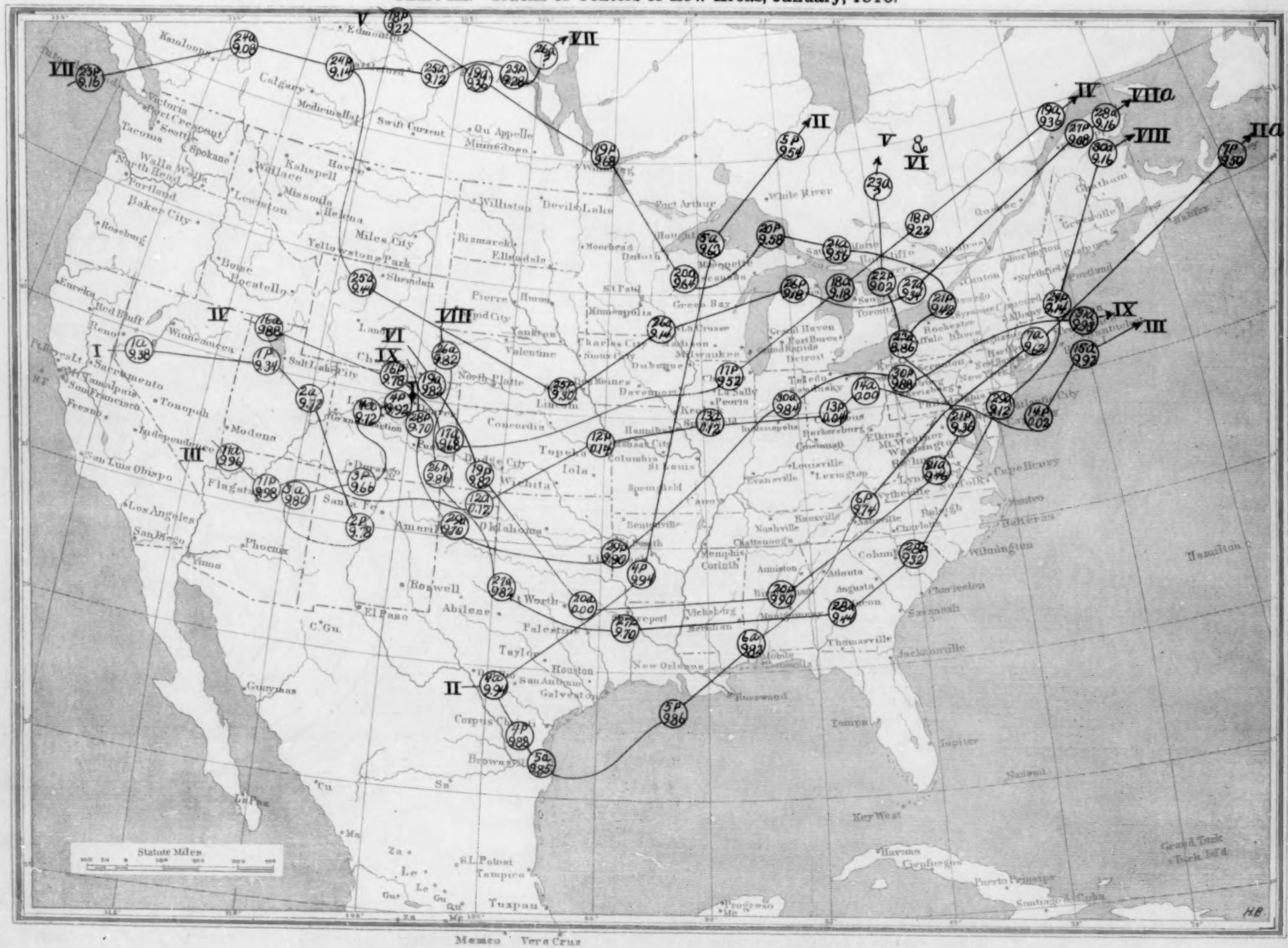

Chart IV. Departure of the Mean Temperature from the Normal, January, 1910.

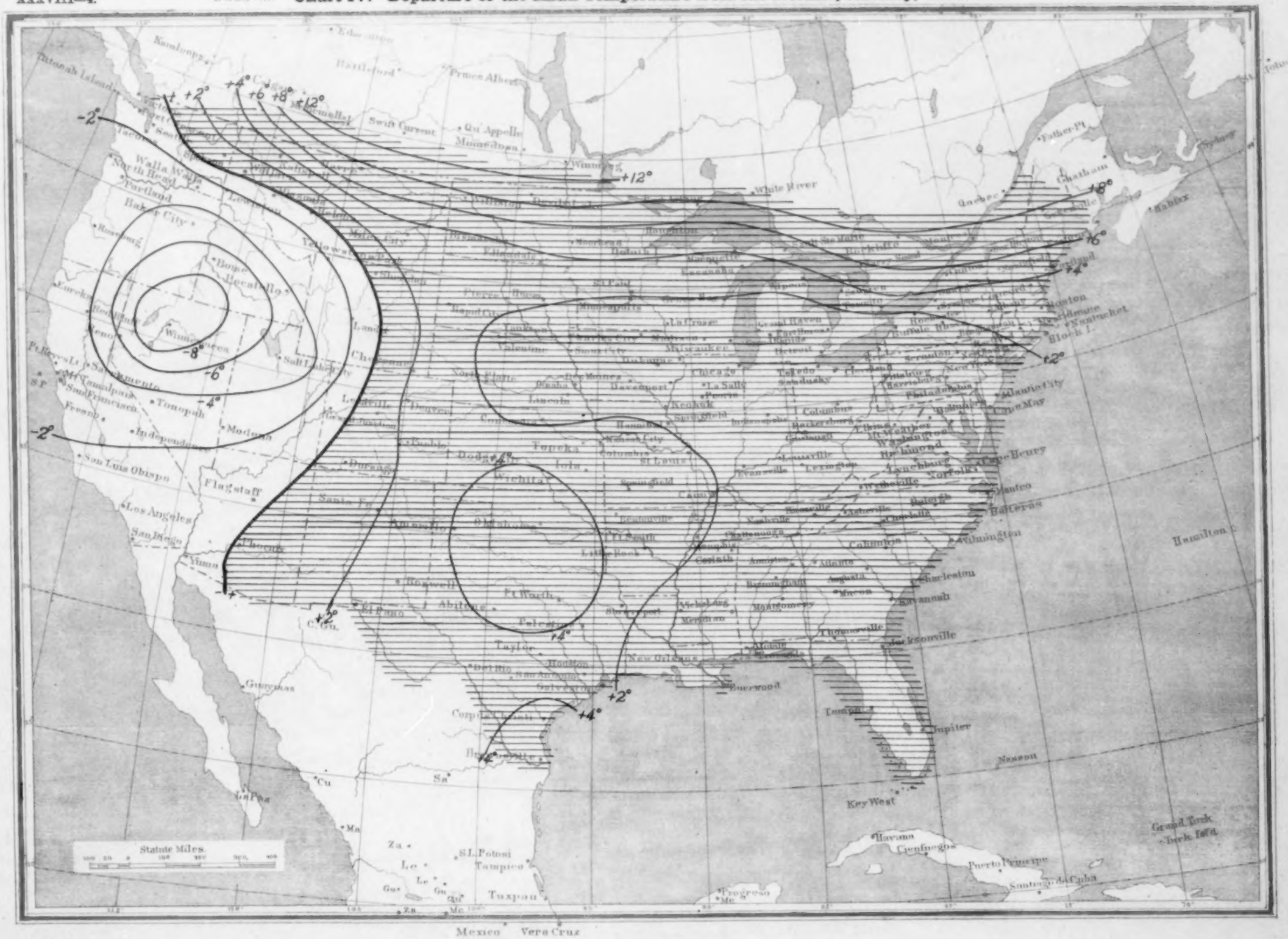

Chart V. Total Precipitation, January, 1910.

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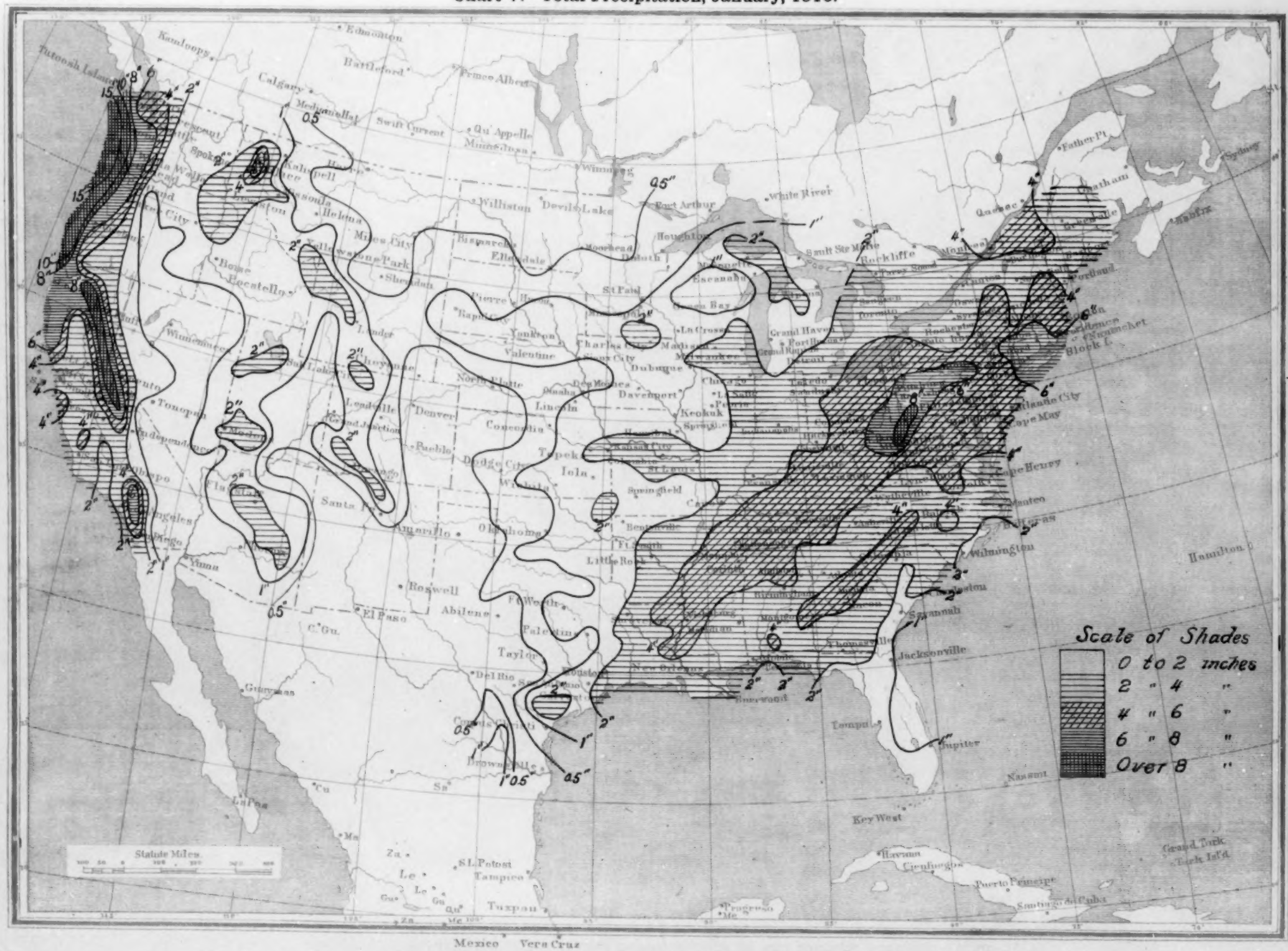

Chart VI. Percentage of Clear Sky between Sunrise and Sunset, January, 1910.

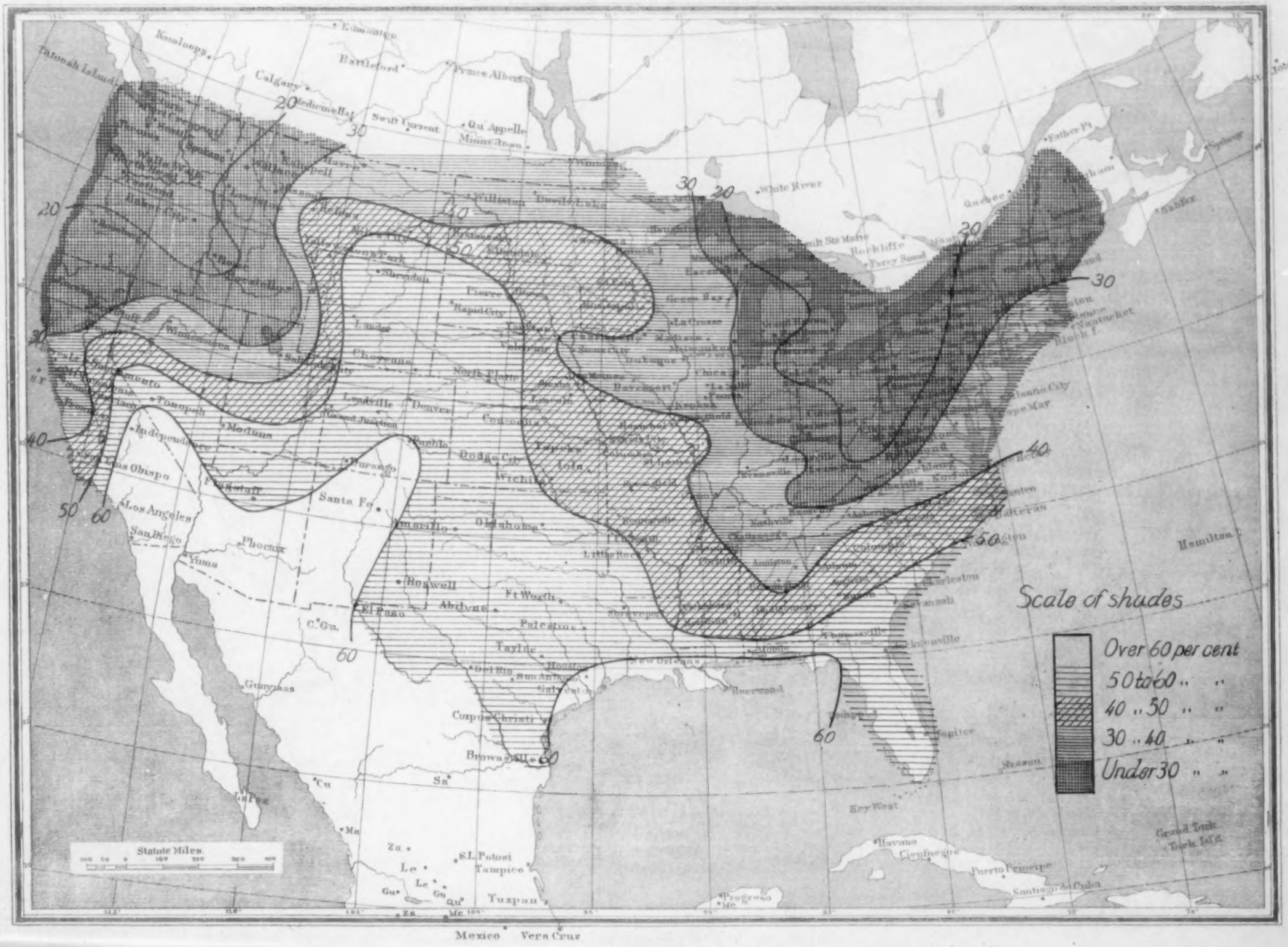

Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, January, 1910.

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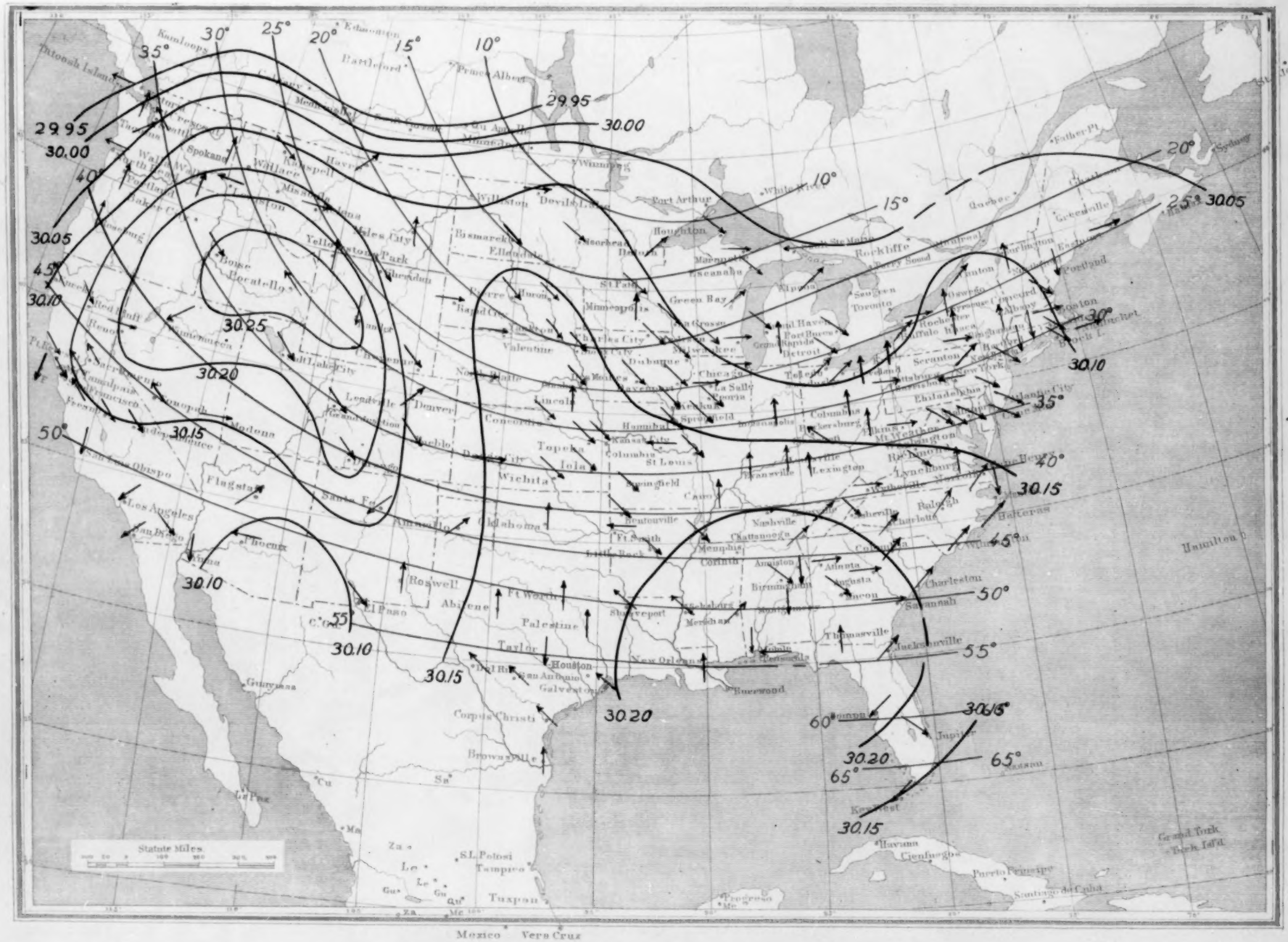

Chart VIII. Total Snowfall for January, 1910.